

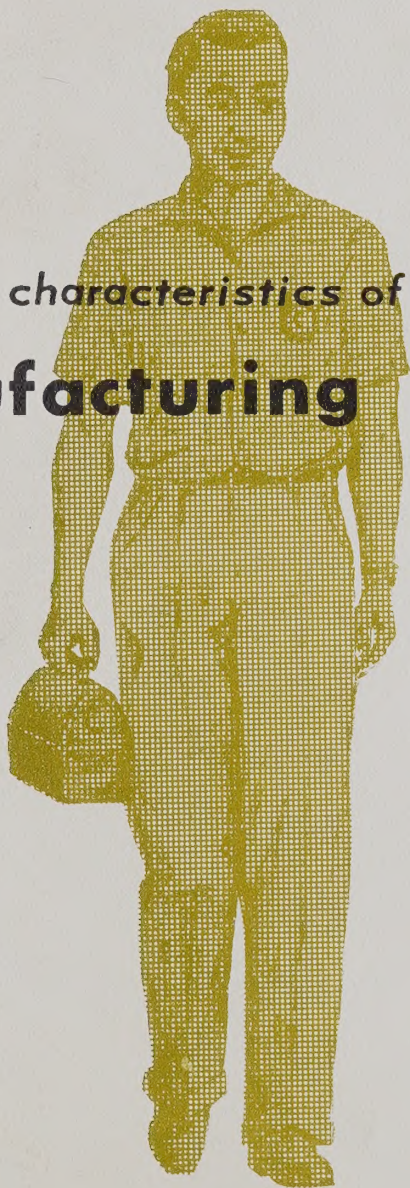
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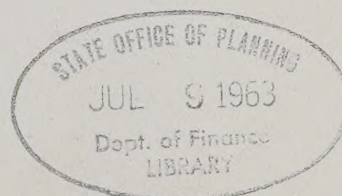
SAN DIEGO
CITY PLANNING DEPARTMENT

M-36

physical characteristics of
manufacturing industrial plants



CENTER FOR PLANNING AND DEVELOPMENT RESEARCH
UNIVERSITY OF CALIFORNIA
BERKELEY, CALIFORNIA 94720



1
Interim technical report

PHYSICAL CHARACTERISTICS OF

MANUFACTURING INDUSTRIAL PLANTS

IN THE CITY OF SAN DIEGO

General Plan Study - Interim Technical Report I

CENTER FOR PLANNING AND DEVELOPMENT RESEARCH
UNIVERSITY OF CALIFORNIA
BERKELEY, CALIFORNIA 94720

Long Range Planning Division

City of San Diego Planning Department

August 1959

San Diego, Calif. - Industry
Industry - San Diego, Calif.



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I. INTRODUCTION

This interim report upon the survey of Manufacturing Industrial Land Use, developed by the General Plan Section of the Long-Range Planning Division from the inventory of non-residentially zoned land in the City of San Diego, is a first step towards the ultimate objective of completing an Economic Base Study for the San Diego metropolitan area. This, in turn, will form part of the preparatory work leading towards the determination of a General Plan for the future physical development of the City of San Diego.

It is intended that significant findings from analysis of, and research into, the characteristics and conditions of urban development in the San Diego metropolitan area be made available in report form while further study is still in progress. This series of General Plan study interim technical reports will be distinguishable by the format and cover design, and will be numbered chronologically according to the sequence of their publication.

II. PURPOSE OF THE STUDY

A California State Interim Committee has stated, "City or Urban Planning in its simplest terms can be defined as intelligent forethought applied to the development of a community".¹ An eminent mathematician, Professor Norbert Wiener, who has contributed in the development of electronic control mechanisms, has written, "To live effectively is to live with adequate information".²

These two quotations may serve to illustrate the underlying purpose of this report. Although the scope of the study was somewhat limited, the data collected and presented herein, while not definitive, was previously unavailable. The stock of technical know-

1. Assembly Interim Committee on Conservation, Planning & Public Works - Planning for Growth, 1955

2. Wiener, Norbert - The Human Use of Human Beings, 1954. P. 18

ledge has been augmented, and improved research techniques have been developed. These are two purposes which were achieved in the study.

The data analyzed in the study, when used in conjunction with future research of the type outlined in Section VI - Areas for Further Study, will take on a depth and significance which it lacks in its present form. Without data describing the many other facets of existing urban structure - social, economic, demographic and others - it is only partially possible to appraise and evaluate the physical characteristics of manufacturing industrial plants described herein.

This longer term purpose or objective - the development of an analytical system encompassing all the apparently disconnected and fortuitous elements of the urban complex - will permit the correlation of such data in such a way that a more valid interpretation will be possible. Qualitative judgments affecting future urban development will, with this system, be dependent less upon subjective intuition than upon the set of feasible principles and standards deduced from this comprehensive analysis. The fact that there will probably never be as much information available as would be desirable does not make the process of research and of data analysis any less important.

Ultimately, such research could be of great practical assistance in estimating more precisely than is now possible, the area of land required for industrial purposes in order to provide adequate and balanced employment, and in indicating the general locations most suitable for this purpose. The rate at which this land might be developed could probably be determined, as could the types of industrial operation most suited or necessary to a particular location. Such theoretical findings, based upon this report and supplementary information, will facilitate the provision of suitably serviced land, and provide standards for judging the adequacy of existing zoning requirements and boundaries.

City planning, if it is to be effective in guiding the development of the community in a sound fashion, must be based upon as comprehensive, accurate and up-to-date a fund of data as possible. This report, it is hoped, represents a major contribution to this objective as it relates to the City of San Diego.

III. DEFINITION OF TERMS

In the following section, some of the terms used throughout the report will be defined. These definitions should provide sufficiently adequate criteria to permit comparability with any subsequent research of an allied nature.

Manufacturing Industrial Plant: An establishment which is principally engaged in the processing of material into finished or semi-finished products by a combination of machinery and labor.

Site Area: The extent of land occupied by a manufacturing industrial plant, property lines as established by field survey, Sanborn and Assessor's maps constituting the limits of effective use, whether this is of an open or an enclosed nature.

Exception 1: Where a plant is located wholly within a building on other than the ground floor, its site area is designated as the area of floor space occupied and utilized by that plant.

Exception 2: Where a plant operates within a building on more than one floor, the site area of the plant, as defined above, shall be increased to equal the total area of floor space occupied and used by the plant, if the actual area of the site is smaller than this total.

Floor Area: The extent of space within a structural enclosure which is occupied and utilized by the plant in the manufacturing process.

Structural Density: The relationship between the total site area and the total floor area available on the site, expressed as a percentage of the site covered:

$$\frac{\text{Floor Area}}{\text{Site Area}} \times 100$$

Center: Center in this report shall mean the intersection of Fifth Avenue and Broadway.

Distance from Center: The measurement, in miles and tenths of miles, of the location of plants from the intersection of Fifth Avenue and Broadway, according to air-line distance.

City of San Diego: The area of land lying within the incorporated limits of the City of San Diego.

Exception 1: The area surveyed and dealt with is restricted to areas zoned for nonresidential uses as of January 1, 1959.

Exception 2: The areas known as the South San Diego and the Del Mar-Miramar annexations are excluded from consideration.

Exception 3: City owned land, other than Tidelands, is excluded.

Standard Industrial Classification (S.I.C.): The source of this system of classification is the "Standard Industrial Classification Manual", prepared by the Bureau of the Budget, The Executive Office of the President in 1949, as described in a City of San Diego Planning Department document, "A Manual of Procedures for Coding Land Use Inventory Data for Machine Analysis", dated June 1957.

The system represents economic activities and the land and/or building areas they occupy and use by a two and a four digit code. The two digit code provides a breakdown by major functionally significant industry groups; the four digit system provides the means for identifying more exactly specific types of industrial operation within the major groups.

The distribution of plants resulting from application of the two digit system shall be known as "Major S.I.C. Groups".

The distribution of plants resulting from application of the four digit system shall be known as "Detailed S.I.C. Categories" or "S.I.C. Categories".

Statistical Terms

The following expressions have been used for comparative purposes to describe certain statistical measurements of ranges in magnitude, whether of site area, floor area, structural density or distance from 5th and Broadway, within each major S.I.C. group, and in manufacturing industry as a whole:

Coefficient of Variation: The quotient of the division of the largest by the smallest example in each major S.I.C. group.

Statistical Terms (continued):

Variation Index: The quotient of the division of the coefficient of variation by the number of plants in the major S.I.C. group.

Mean Interval: The figure obtained from dividing the difference between the largest and the smallest example in each major S.I.C. group, by the number of plants in the group.

IV CRITERIA, PROCEDURES OF STUDY

The City Planning Department's inventory of land use in nonresidential zones was the source of the data presented in this report. The inventory contains a punch card for each nonresidentially zoned parcel of land. The location, dimensions, area and use - both general and specific - of each parcel are among the items of information recorded on the card by means of punch-hole perforations. These data may be analyzed and tabulated in a multitude of ways by modern electronic data processing machines, which can correlate, sort, and add many hundreds of pieces of information at high speed. The inventory is maintained on a current basis - all additions, changes of use and new uses, changes in site and floor area, or changes of address or location, which have been noted during the year, are reflected in the complete set of cards which are made in January of each year.

The inventory assigns all land uses to one of seven broadly defined General Land Use types - Residential, Commercial, Industrial, Public, Semi-Public, Agricultural and Vacant Land. Each land use is more specifically described by the application of the Standard Industrial Classification system (hereafter abbreviated to S.I.C.). This system utilizes a four digit code, the first two of which identify the major industry group, while the last two describe the sub-groups within the major category.

For the purpose of this report, two methods were used to ensure that the data analyzed pertained only to such plants as might be described as "manufacturing industries",

i.e., were engaged in some stage of production or processing of materials.

First, the tabulation of the IBM cards was restricted to General Land Use Type III, Industrial. Second, in order to exclude non-manufacturing industries, such as wholesaling, and warehousing, only those land uses classified in the S.I.C. code within major industry groups 19 through 39 were analyzed.

Therefore, it may be safely assumed that all of the plants surveyed in this report are actually engaged in some form of manufacturing activity. Conversely, it is unlikely that the industrial plants excluded from consideration manufacture or process materials to any important extent, if at all. (For a fuller description, see section on Limitations of Study.)

The data on all land uses shown in the inventory as General Land Use Type III, Industrial were electronically processed in three ways:

1. According to location - in ascending order by census tract and block number.
2. According to type of industry - in ascending order by S.I.C. code number.
3. According to size of plant - in descending order by square feet of site area.

The information in all three tabulations printed by the electronic data processing machine remained constant - in each case the census tract and block number, street address, S.I.C. code number, site area, and floor area in square feet were shown. By altering the sequential arrangement of these data, and obtaining sub-totals for a variety of groupings of the data, the task of analysis was accomplished with comparative simplicity and ease, and with considerable savings of staff time.

V. SCOPE OF STUDY

By describing some of the limits of this study, it is hoped that its scope will also become apparent. Disregarding the fact that there are many other ways in which the

research data could have been presented, this section of the report will deal with those factors which possibly limit the accuracy and completeness of the basic data. This necessitates a description of some of the methods and procedures used in the original survey from which the land use inventory was derived.

There are several limiting factors in relation to the geographic extent of the inventory. First, the survey was limited to those areas of the City of San Diego which are zoned for nonresidential land uses. Second, the exhaustive field work, which was the original basis of the inventory, was carried out in the first half of 1956. Since that time, the incorporated area of the City has been increased by several annexations, the most important being the South San Diego and the Del Mar-Miramar annexation, carried out in 1957 and 1958 respectively. It still remains for these areas to be surveyed on a comparable basis to that used in 1956 for the older parts of the City. The third gap in the data follows from the fact that City owned lands are not subject to zoning and, with the exception of Tidelands, were not included in the survey. These three limitations effectively exclude from consideration in this report any industrial operation which is:

- a. A non-conforming use in a residential zone
- b. Located in the areas annexed since the survey
- c. Located on City owned land (apart from Tidelands)

It is only in the last two cases that there is any strong possibility of having omitted some manufacturing industrial plants. A survey conducted recently in the residentially zoned areas of the City showed few if any industrial uses of the kind analyzed in this report, while there are only a limited number of industrial uses in both newly annexed areas and on some City owned parcels of land.

Within the geographic scope of the survey, the data presented is accurate as of January 1, 1959. Building and business license information is used in conjunction with spot field-checking to maintain the inventory current. A few plants, which had gone out of business since January 1958 and where the premises were vacant in January 1959, were excluded from the 1959 inventory when this situation was discovered in the field. If a plant

changes its use from one industrial category to another, or to a commercial use, business license information will indicate this, but business failures or suspensions are not at present reflected in the inventory.

The Standard Industrial Classification system used in the inventory has some minor limitations, in that it is not so flexible that every conceivable type of industrial or commercial operation can be designated with a code number in a completely consistent and logical way. However, in its application to the Land Use inventory, some of the inconsistencies have been removed by the additional classification of all land uses into one of seven general land use categories. By this system, a land use which must be classified under one of the manufacturing industrial headings in the S.I.C. code, due to the lack of a more appropriate designation, might be in the "Commercial" rather than the "Industrial" general land use category if the nature of the use appears to be more suitably described in this way. The analysis of all uses categorized as falling within "General Land Use Type III - Industrial" was limited to those designated as "Manufacturing Industries" in the S.I.C. code system - in this way all non-manufacturing land uses were excluded from this study.

Generally speaking, there is a place in the S.I.C. code to describe every stage in the economic process through which any article may pass - from the source of the raw materials, through its processing, manufacture, distribution, storage, wholesaling and final retailing, and then its subsequent servicing and repair. In actuality, it sometimes happens that several of these functions occur on the same site. The decision as to which S.I.C. category most accurately describes the use of the land has been based in this survey upon the principle that one function will predominate over the others. A shoe store may make shoes on the premises but it is essentially a retail rather than a manufacturing land use. Conversely, a daily and bottling plant may sell some of its products from the site, but this would be classified in the survey as an industry in the Food Manufacturing Code group rather than as a retail outlet, or as a wholesaling use.

The scope of this report has been limited to an analysis of some of the physical

characteristics of manufacturing industrial plants in San Diego. These plants are described, ranked and distributed according to their site area, floor area, the relationship between these two, the location of the plants in relation to a central point, taken as the intersection of Fifth Avenue with Broadway, and the classification of the use according to the S.I.C. system. There are obviously many other characteristics of a physical nature about which it would be desirable to be informed - the amount of site area devoted to parking, to give a single example. Some of these are indicated in Section VII below.

The findings of this report are meaningful and valid, providing that these qualifications are recognized. It is for this reason that space has been given to their description. It should also be mentioned that this report presents an updated, more detailed and finite version of some of the data included in the City of San Diego Planning Department Report B-1, dated November 1958 and entitled "Non-Residential Zoned Land in San Diego".

VI. AREAS FOR FURTHER STUDY

This report is concerned only with the size, distribution and types of manufacturing industrial plants in the City of San Diego. A comprehensive study of Industry would require expansion in at least five directions, as follows:

1. Geographic Base

As in many other respects, the jurisdictional boundaries of a city do not necessarily mark the limits of its economic significance or strength. In order to obtain an accurate and meaningful appraisal of the industrial status of the City of San Diego, it will be necessary to survey industrial plants and activity in the surrounding incorporated and unincorporated areas which, with the City of San Diego, form the metropolitan region. There are also some industrial plants, either within recently annexed areas of the City of San Diego or in areas outside the scope of the land use inventory, which are not included in the present report. Data on these should be included in any future industrial study.

2. Functional Base

As well as enlarging the geographic base of study to include all of the metropolitan area, it will be necessary to broaden the research program to include

all industrial functions, whether these are of a manufacturing character or not. Data on non-manufacturing industries, such as warehousing, wholesaling, utility and transportation facilities, have been tabulated and analyzed on a basis comparable to the one used in the preparation of this report. The findings of this survey will be published shortly as an interim technical report by the City Planning Department.

3. Descriptive Base

The physical characteristics of industrial plants - expressed in terms of location, site and building area - are but one of many factors of a quantitative nature by which the quality and status of industry may be measured. It will be necessary, in order to gain a greater understanding of the economic, functional, and physical needs and implications of industrial development, to study a much wider range of factors. It is important that data be made available on a unified and comparable basis, so that interrelationships and correlations may be observed. Some of the factors are as follows:

- a. Employment - Number and demographic character of employees
Place of residence, means of transportation used
Income and educational status
Duration of employment, turnover rate
- b. Economic - Value of payrolls
Value added by manufacture
Value of products
Assessed valuation of plants
- c. Physical - Number, area of on-site parking spaces
Distance of plants in terms of time, as well
as space from "centers" of various kinds
Aesthetic, visual considerations
Implications of technological change
Significant methods of transportation,
operation utilized

4. Comparative Base

As a guide to evaluating the data describing the industrial character of San

Diego, it will be necessary to obtain similar information from other cities or metropolitan areas. If possible, the cities and areas selected for comparison should fall into one or more of the following types:

- a. Of approximately the same population size as San Diego and the metropolitan area;
- b. Of approximately the same size with respect to land area, distances between functionally significant points;
- c. Of similar geographic character;
- d. With a similar historical pattern of growth.

It will be desirable to obtain data for larger areas, either metropolitan, county, state or national, in terms, for example, of ratios between the area of land used for industrial purposes of various kinds and the size of the population involved.

In addition to comparisons with other geographic entities, it is desirable to make temporal comparisons within the metropolitan area. By this means, it is possible to determine in what ways, and to what extent, the industrial character of the area has changed during a specific period of time. From this source, trends can be established, projections of land area and transportation requirements of industry estimated, and actions indicated as necessary can be taken in advance of actual need.

5. Research Base

It may be necessary and desirable to augment the surveys of an objective and factual nature by others of a more subjective type. Surveys of attitude and opinion at industrial management level can provide valuable information on the locational preferences of various industries, the anticipated character of future plant expansion, and the environment which it will be necessary to provide in order to permit the most advantageous industrial development.

This report presents the findings of the first of a continuing series of studies which will be undertaken to fulfil this research program. The data described herein have not been

available previously, and the basis of analysis - the Standard Industrial Classification System - is one which permits a high degree of comparability in a continuing and expanding research program of the type described above. Such a program would contribute greatly to an improved understanding of the economic character, needs and potential of the San Diego area. It would form a very important segment of an economic base study of the metropolitan area aimed at determining the nature of relationship between the "basic" and "non-basic" elements in the local economy by means of an "input-output" type of analysis.

VII. SUMMARY OF FINDINGS

1. General

A total of 292 manufacturing industrial plants was found to be located within the City of San Diego, with a total site area of 752.3 acres. Total floor area amounted to 195.8 acres or 8,541,000 square feet.

2. Site Area

Perhaps the most remarkable finding of the survey is the high proportion of relatively small plants which exists in San Diego. 235 plants, or four-fifths of the total number, have a site area of less than one acre. 201 plants occupy smaller than half-acre parcels, while only 20 plants have a site area of five acres or more. Two S.I.C. major industry groups, Ordnance and Transportation equipment, with 25 plants (8.5% of total plants), occupy 504.5 acres (67.1% of total site area).

Mean site area is 2.587 acres per plant. The largest plant is an Ordnance plant manufacturing missiles, with 254 acres of land, while the smallest is one manufacturing plastics, which has a site area of 0.003 acres. The median site area is 0.229 acres in size. No less than 23 plants occupy sites with an area of 0.114 acres, or 5000 square feet, making this by far the most common size of site found in the survey.

A total of 7.016 acres, treated in this report as site area (See Section on Limitations, Scope of Study), is composed of manufacturing area at other than ground floor level. 48 plants occupy this upper floor space, 42 of which do not occupy the ground floor space underneath, and which therefore are effectively deprived of site area in the accepted sense of the word.

3. Floor Area

A high proportion of plants with floor areas of relatively small size is apparent in the results of the survey, a reflection of the similar situation existing in regard to the characteristics of plant site areas. 137 plants, or 46.9% of all plants, have a floor area of 5000 square feet or less. Only 17 plants (5.8% total plants) have a floor area of more than 50,000 square feet; five of these each occupy more than 250,000 square feet; two plants, both manufacturing air frames, have floor areas in excess of one million square feet each. 86% of all plants are under 25,000 square feet in size of floor area. Four plants have no structures on their sites - two of these are in the Stone, Clay and Glass products group, one is in General Machinery Manufacturing and the fourth is a fish cannery pier.

The range of size is extremely wide - the plant with the smallest floor area manufactures plastics, and has 150 square feet of space. The largest, an aircraft plant, covers 1,720,800 square feet. The mean floor area is 29,200 square feet in size, while the median is only 5,000 square feet - a measure of the extremes in plant size analyzed.

4. Structural Density

Nearly a third of all manufacturing plants have a structural density of 100% - which means that the total floor area is at least as extensive as the site area of these plants. 73 plants, or one quarter of the total, have a structural density of less than 30%. Excepting the concentration of plants with 100% structural density, the distribution of the remaining plants is rather even throughout the density range, with only relatively minor deviations from a norm of around 20 plants within each 10%

division. The largest number of plants within a 10% division totals 30 at the 40-49.9% level; the smallest, 11 at the 90-99.9% level.

The mean average structural density, calculated by relating total floor area of all plants to total site area, is 26.1%. The median is 62.7% and the mode is 100.0%.

5. Distance from 5th and Broadway

236 plants, or 80.0% of the total, are located within a four mile radius of 5th and Broadway. Only seven plants are situated more than eight miles from this center. A considerable degree of clustering is apparent among the plants located more than five miles from the center - all but two of the 42 plants in this category are situated in five rather concentrated locations. Approximately two-thirds of all plants are found within 1500 feet of a seven-mile stretch of Pacific Highway from Cudahy Slough south to its intersection with Wabash Freeway.

Distance of plants from the center ranges from 0.1 to 12.8 miles. No clear correlation was established between site area and distance from center - for example, all three plants located between 10 and 10.9 miles from 5th and Broadway were under 1/4 acre in site area, while four of the nine largest plants (with site area of 10 acres or more) were within two miles of the center. The same was true of the relationship between floor area and distance from the central point. One of the five plants which each have floor area in excess of 1/4 million square feet, is within one mile of 5th and Broadway. Fourteen of the 17 plants with more than 50,000 square feet of floor area are under four miles from the center, while, conversely, five of the six plants over nine miles from that point have less than 10,000 square feet of floor space.

The mean distance of plants from 5th and Broadway is 2.6 miles, the median 1.9 miles, and the mode is 1.5 miles.

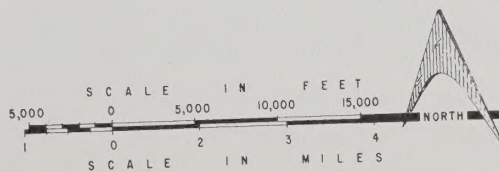
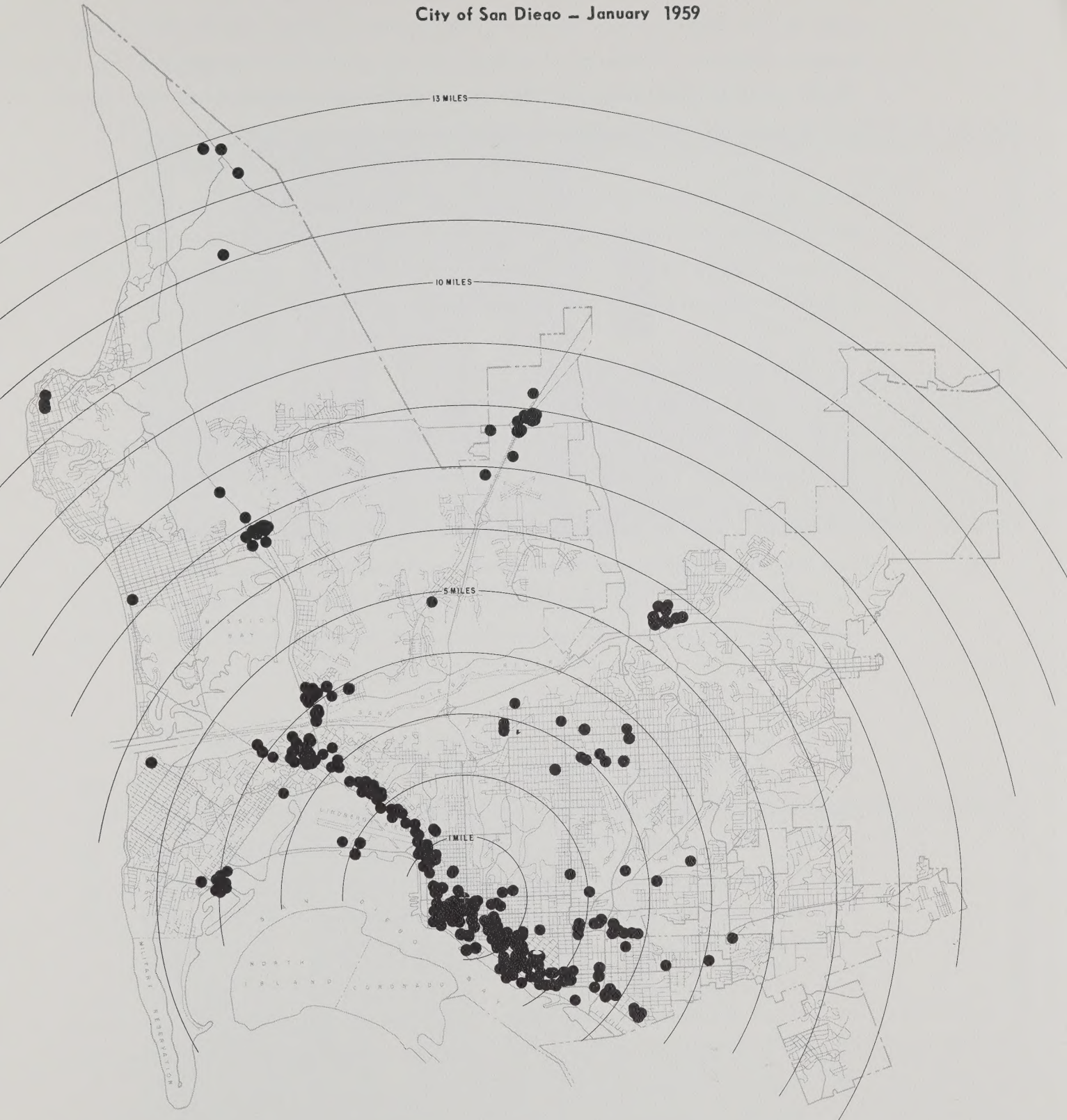
6. Types of Manufacturing Industry

The major S.I.C. industry group with the largest number of plants is Food Manufacturing, with 56 plants. There are three industries which are not represented in the

FIGURE I LOCATION OF MANUFACTURING INDUSTRIAL PLANTS

IN RELATION TO 5TH AVENUE AND BROADWAY

City of San Diego - January 1959



City of San Diego at all - Tobacco Products manufacturing, Textile Milling, and Leather Products. There are also three industry groups which each have only a single plant located within the City limits - Ordnance manufacturing, Petroleum Products and Fuel, and Rubber Products manufacturing.

However, this is about the only characteristic these three groups have in common, because while ordnance constitutes the largest industry group with respect to site area, the latter two groups are, with the exception of the Professional and Scientific Equipment manufacturing group, the smallest in total site area.

The Printing and Publishing Industry group has the smallest mean site size - averaging 0.12 acres each, its 22 plants totalling only 2.66 acres. Excluding Ordnance manufacturing (see above), the group having the largest mean site area is in Transportation Equipment manufacturing - its 24 plants average 10.4 acres in site area.

This group is also the largest in total floor area, utilizing more than four times the area occupied by the second largest group, Food manufacturing, and nearly six times the floor area of Ordnance manufacturing, which is third in order of size. It also forms nearly 55% of the total manufacturing floor area existing in the City of San Diego.

The Clothing manufacturing group exhibits the greatest structural density characteristics, with the total floor area representing 95.8% of the total site area. At the other end of the scale is the Stone, Clay, and Glass products group, for which the figure is 0.76%. The greatest range of structural density, as measured in terms of the mean interval (See section on Definition of Terms), is in the Paper and Paper Products group, totalling six plants, in which the lowest example is 5.8%, and the highest 100%, producing a mean interval of 15.7%.

The Lumber Products group of plants exhibits the greatest range in distance from the center at Fifth and Broadway--the most distant plant is 12.5 miles from this

DISTRIBUTION OF MANUFACTURING INDUSTRIAL PLANTS

City of San Diego - January 1959

FIGURE 2A

BY SITE AREA AND DISTANCE FROM 5TH & BROADWAY

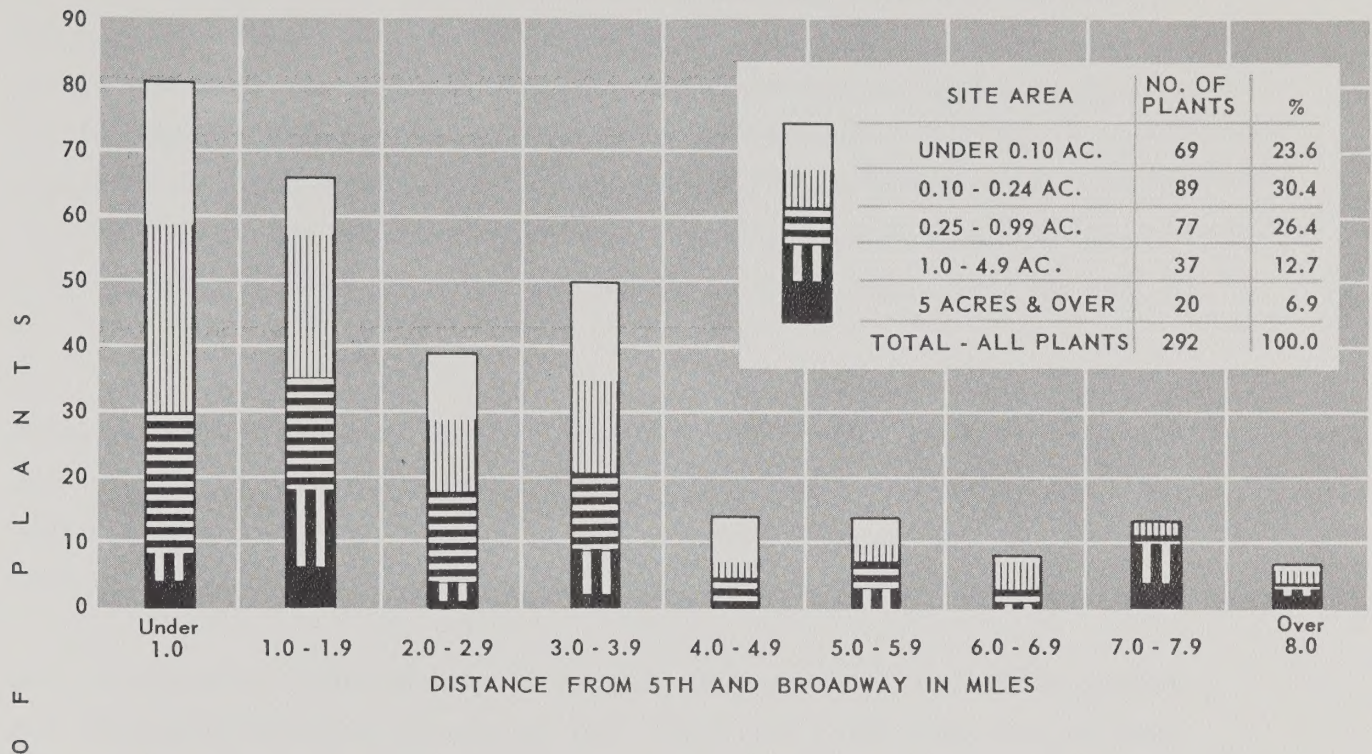
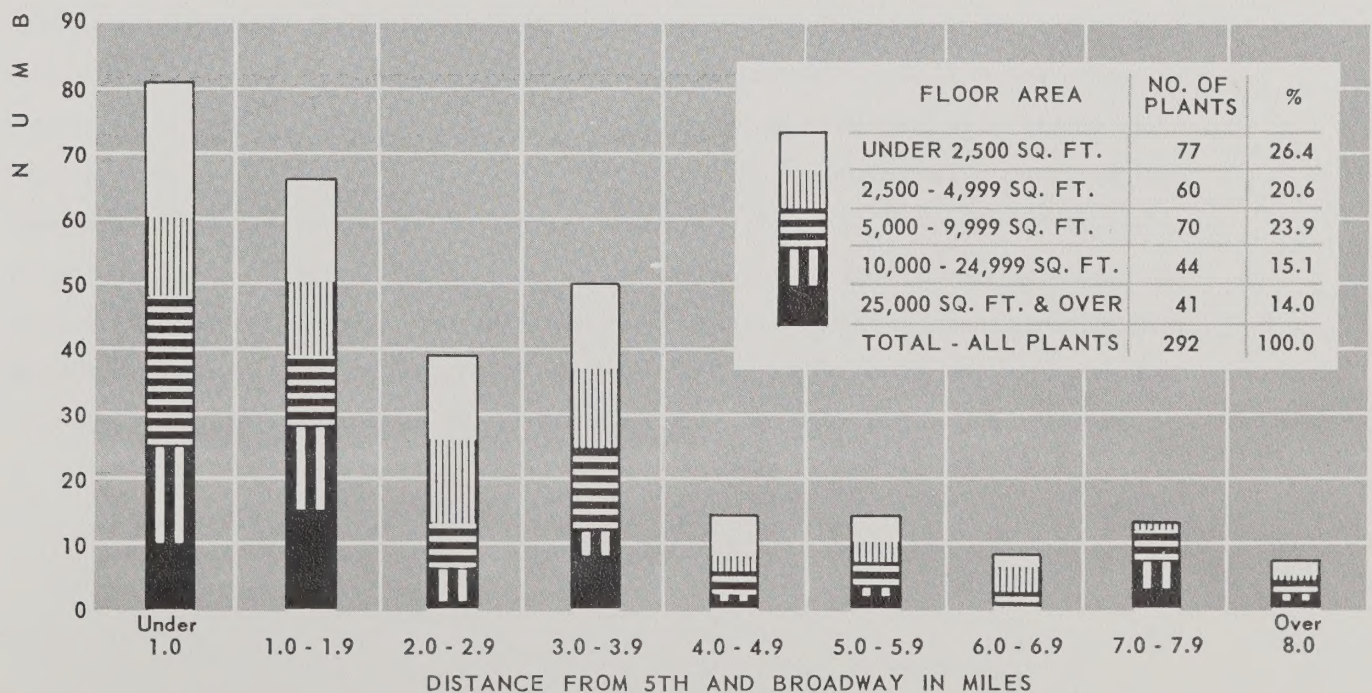


FIGURE 2B

BY FLOOR AREA AND DISTANCE FROM 5TH & BROADWAY



point, while the closest is only 0.3 miles away. The Stone, Clay and Glass group, however, has the largest mean interval in relation to distance from center--the eight plants are, on average, spaced at 1.45 mile intervals outwards from the center. (This would be the situation if they actually were spaced at equal distances along a radius centered at Fifth and Broadway.) Excepting two industry groups which are represented by only one plant each, and which therefore are not strictly comparable, the Electrical Machinery manufacturing and Electronics group of 24 plants has the highest mean distance from the center, with an average distance of 4.5 miles. The group with the lowest mean figure is Clothing manufacture, in which the average is 0.4 miles.

It should, perhaps, be stressed that these findings are statistical and objective in nature, and are in no way to be interpreted as implying qualitative judgments. The findings described above pertain solely to the physical attributes of the manufacturing industrial plants in the City of San Diego, and, within this limited scope, are factual and accurate.

While no attempt has been made at this stage to diagnose the causes or the effects of the characteristics analyzed in this report, many are already well-known or capable of a rather simple explanation. For instance, the predominance of plants with relatively small site and floor areas, and high structural density ratios, is a result of industrial development of land, especially in the older, more centrally located areas of the City, which was originally designed and platted for residential uses. One effect that is apparent in plants of this type is their frequent inability to provide off-street parking facilities for employees or clients. Another example which might be cited is the unusual proximity of extremely large industrial operations to the retail and commercial center of the metropolitan area, a circumstance only possible because of the availability of reclaimed tidelands for plants of this type. One last example of the factors which can determine the physical characteristics of industrial plants relates to the Electrical Machinery manufacturing and Electronics group, which, as mentioned above, has the highest mean distance from the center. This is explainable to a large extent by the recent growth and development of this field and the creation of a new set of locational factors considered

necessary for efficient and profitable operation. These new industrial site requirements include such aspects as spacious working conditions, easy access to the new residential areas where most of the skilled employees live, and other conditions found most economically in the outlying suburban areas.

Some of the highlights of the survey's results are outlined in this section. It is obviously impossible to mention more than the more striking in verbal form, and the tabulations can provide a more complete picture of the physical aspects of San Diego's industrial structure.

Section A

GENERAL DISTRIBUTION OF ALL MANUFACTURING PLANTS

Table I	Site Area Characteristics
II	Floor Area Characteristics
III	Structural Density Characteristics
IV	Plant Locations in Relation to Fifth and Broadway
V	Types of Manufacturing Plants - Major S.I.C. Groups

Table 1

SITE AREA CHARACTERISTICS

ALL MANUFACTURING INDUSTRIAL PLANTS

City of San Diego - January 1959

Site Area (Acres)	Number of Plants	% Total Plants
Under 0.01 ac.	8	2.7%
0.010 - 0.024	16	5.5
0.025 - 0.049	18	6.2
0.050 - 0.099	27	9.2
0.10 - 0.24	89	30.5
0.25 - 0.49	43	14.7
0.50 - 0.99	34	11.6
1.00 - 2.49	24	8.2
2.50 - 4.99	13	4.5
5.00 - 9.99	11	3.8
10.00 - 24.99	4	1.4
25.00 - 49.99	2	0.7
50.00 - 99.99	2	0.7
100.00 & over	1	0.3
TOTAL	292	100.0

Table II

FLOOR AREA CHARACTERISTICS

ALL MANUFACTURING INDUSTRIAL PLANTS

City of San Diego - January 1959

Floor Area (000 Sq. Ft.)	Number of Plants	% Total Plants
No structure	4	1.4%
Under 1.00	27	9.2
1.00 - 2.49	46	15.7
2.5 - 4.9	60	20.6
5.0 - 9.9	70	24.0
10.0 - 24.9	44	15.1
25.0 - 49.9	24	8.2
50.0 - 99.9	7	2.4
100.0 - 249.9	5	1.7
250.0 - 499.9	1	0.3
500.0 - 999.9	2	0.7
1,000.0 - & over	2	0.7
TOTAL	292	100.0

Table III

STRUCTURAL DENSITY CHARACTERISTICS

ALL MANUFACTURING INDUSTRIAL PLANTS

City of San Diego - January 1959

Structure Density (% Site Area Covered)	Number of Plants	% Total Plants
No structure	4	1.4%
Under 10%	18	6.2
10.0 - 19.9	25	8.5
20.0 - 29.9	26	8.9
30.0 - 39.9	19	6.5
40.0 - 49.9	30	10.3
50.0 - 59.9	19	6.5
60.0 - 69.9	15	5.2
70.0 - 79.9	13	4.4
80.0 - 89.9	18	6.2
90.0 - 99.9	11	3.8
100.0% coverage	94	32.1
TOTAL	292	100.0

Table IV

PLANT LOCATIONS IN RELATION TO 5TH AND BROADWAY

ALL MANUFACTURING INDUSTRIAL PLANTS

City of San Diego - January 1959

Distance from 5th & Broadway (Concentric 1 Mile Rings)	Number of Plants	% Total Plants
Under 1 Mile	81	27.7%
1.0 - 1.9 miles	66	22.7
2.0 - 2.9	39	13.3
3.0 - 3.9	50	17.1
4.0 - 4.9	14	4.9
5.0 - 5.9	14	4.9
6.0 - 6.9	8	2.7
7.0 - 7.9	13	4.4
8.0 - 8.9	1	0.3
9.0 - 9.9	None	-
10.0 - 10.9	3	1.0
11.0 - 11.9	1	0.3
12.0 - 13.0	2	0.7
TOTAL	292	100.0

Table V

TYPE OF MANUFACTURING PLANTS BY MAJOR S.I.C. GROUPS

ALL MANUFACTURING INDUSTRIAL PLANTS

City of San Diego - January 1959

Major S.I.C. Group	Type of Industry	Number of Plants	% Total Plants
19	Ordnance Manufacturing	1	0.3%
20	Food Manufacturing	56	19.2
21	Tobacco Products Manufacturing	None	-
22	Textile Milling	None	-
23	Clothing Manufacturing	14	4.9
24	Lumber Products	24	8.3
25	Furniture Manufacturing	13	4.5
26	Paper and Paper Products	6	2.0
27	Printing and Publishing	22	7.5
28	Chemical Manufacturing	17	5.8
29	Petroleum Products and Fuel	1	0.3
30	Rubber Products Manufacturing	1	0.3
31	Leather and Leather Products	None	-
32	Stone, Clay and Glass Products	8	2.7
33	Metal Production, Mills, Foundries, etc.	15	5.1
34	Fabricated Metal Products	26	8.9
35	Machinery Manufacturing (except Electrical)	8	2.7
36	Electrical Machinery Mfg. and Electronics	24	8.3
37	Transportation Equipment Manufacturing	24	8.3
38	Professional, Scientific Equipment Mfg.	3	1.0
39	Miscellaneous Manufacturing	29	9.9
All Manufacturing Industries - TOTAL		292	100.0

Table VI

**COMPARATIVE SUMMARY OF PLANT CHARACTERISTICS
BY DETAILED S.I.C. CATEGORIES**

ALL MANUFACTURING INDUSTRIAL PLANTS

City of San Diego - January 1959

1	2	3	4	5	6	7	8	9	10
S.I.C. Categories	Type of Industry	Plants		Site Area		Floor Area		Mean Structural Density (% Site Covered)	Mean Distance from 5th and Broadway (Miles)
		No.	% Total	Acres	% Total	000 Sq. Ft.	% Total		
1900	Ordinance: TOTAL	1	0.34%	254.23	33.80%	836.0	9.79%	7.55%	7.3 miles
2010	Meat Packing	2		11.76		83.0		16.2	2.3
2020	Dairy Products	7		5.59		136.6		56.0	1.7
2031	Fish Cannery	10		13.64		338.4		56.9	2.8
2033	Food Cannery	2		0.94		50.4		88.5	0.6
2070	Candy, Confectionery	2		0.28		8.2		62.1	0.5
2080	Bottling Plants	11		11.11		191.1		39.5	2.8
2097	Ice Manufacturing	6		3.07		104.9		78.5	1.5
2099	Miscellaneous Food Manufacturing	16		10.74		203.8		43.5	1.5
	TOTAL - Food Manufacturing	56	19.20%	57.13	7.59%	1116.4	13.07%	44.80%	2.0 miles
2300	Clothing Manufacturing General	12		1.66		72.5		100.0	0.4
2394	Canvas Tarps, Awnings	2		0.47		16.5		80.6	0.3
	TOTAL - Clothing Manufacturing	14	4.79%	2.13	0.28%	89.0	1.04%	94.88%	0.4 miles
2400	Lumber - General	2		0.49		11.2		52.0	8.6
2430	Millwork	2		13.49		67.3		11.9	0.7
2499	Wood Products	20		8.23		75.7		20.9	3.5
	TOTAL - Lumber Products	24	8.22%	22.21	2.95%	154.2	1.81%	15.95%	3.7 miles
2500	Furniture Manufacturing - General	11		3.78		93.6		57.0	1.0
2562	Window Shades	1		0.06		1.5		57.1	3.1
2563	Venetian Blinds	1		0.07		3.2		100.0	2.9
	TOTAL - Furniture Manufacturing	13	4.45%	3.91	0.52%	98.3	1.15%	57.80%	2.2 miles

Table VI (continued)

COMPARATIVE SUMMARY OF PLANT CHARACTERISTICS

1	2	3	4	5	6	7	8	9	10
S.I.C. Categories	Type of Industry	Plants		Site Area		Floor Area		Mean Structural Density (% Site Covered)	Mean Distance from 5th and Broadway (Miles)
		No.	% Total	Acres	% Total	000 Sq. Ft.	% Total		
2600	Paper - All Types: TOTAL	6	2.03%	3.25	0.43%	92.4	1.09%	65.25%	2.9 miles
2711	Newspaper Publication	3		0.47		20.6		100.0	1.7
2750	Commercial Printing	18		2.08		84.4		93.2	1.8
2781	Bookbinding	1		0.11		3.6		72.0	0.1
	TOTAL - Printing & Publishing	22	7.54%	2.66	0.35%	108.6	1.27%	93.75%	1.7 miles
2800	Chemical Manufacturing - General	6		1.41		47.0		76.8	3.4
2823	Plastics Manufacturing	8		4.53		43.1		21.8	4.3
2850	Paints	1		0.24		3.5		33.3	1.8
2870	Fertilizers	2		5.82		67.3		26.6	4.3
	TOTAL - Chemical Manufacturing	17	5.83%	12.00	1.59%	160.9	3.68%	30.64%	3.8 miles
2991	Packaged Fuel: TOTAL	1	0.34%	0.82	0.11%	7.2	0.08%	20.12%	4.1 miles
3000	Rubber Products: TOTAL	1	0.34%	0.44	0.06%	13.3	0.16%	68.20%	7.1 miles
3250	Brick and Tile Manufacturing	2		38.19		5.0		0.003	8.3
3254	Sewer Pipe	2		8.09		2.1		0.006	2.0
3271	Concrete Block Manufacturing	1		0.23		1.0		10.0	1.9
3281	Stone Cutting	3		1.01		7.5		17.1	2.5
	TOTAL - Stone, Clay and Glass	8	2.74%	47.52	6.32%	15.6	0.18%	0.76%	3.8 miles
3300	Steel Pipe - General: TOTAL	15	5.14%	21.43	2.85%	323.3	3.78%	34.58%	2.1 miles
3400	General Tools, etc.	20		5.20		116.7		51.5	2.5
3468	Electro-Plating	6		1.44		21.5		34.3	2.2
	TOTAL - Fabricated Metal Products	26	8.90%	6.64	0.88%	138.2	1.62%	47.75%	2.5 miles

Table VI (continued)

COMPARATIVE SUMMARY OF PLANT CHARACTERISTICS

1	2	3	4	5	6	7	8	9	10
S.I.C. Categories	Type of Industry	Plants		Site Area		Floor Area		Mean Structural Density (% Site Covered)	Mean Distance from 5th and Broadway (Miles)
		No.	% Total	Acres	% Total	000 Sq. Ft.	% Total		
3500	Machinery Manufacturing - Gen.: TOTAL	8	2.74%	15.14	2.01%	106.9	1.25%	16.19%	3.9 miles
3600	Electrical Machinery - General	5		0.67		19.0		64.5	2.9
3610	Electrical Generating Equipment	1		0.01		0.3		100.0	3.2
3620	Electrical Appliances	1		0.16		2.5		35.7	3.5
3640	Electrical Equipment	5		1.89		60.4		73.4	3.3
3650	Electric Lamps	1		0.06		2.4		100.0	4.2
3660	Communication, Electronic Equipment	11		26.94		131.9		11.2	5.9
	TOTAL - Electrical Machinery Mfg.	24	8.22%	29.73	3.95%	216.5	2.53%	16.70%	4.5 miles
3710	Motor Vehicles & Equipment	5		1.42		18.3		29.5	2.3
3721	Aircraft Manufacturing, Assembly	10		206.27		4,022.1		44.7	2.4
3729	Aircraft Parts (except Engines)	2		23.18		478.7		47.4	1.0
3731	Shipbuilding & Repair	7		19.44		140.4		16.6	2.1
	TOTAL - Transportation Equipment	24	8.22%	250.31	33.29%	4,659.5	54.55%	42.66%	2.2 miles
3800	Professional, Scientific Equip.: TOTAL	3	1.03%	0.29	0.04%	9.9	0.12	79.40%	1.2 miles
3940	Toys, Sporting Goods	6		14.13		243.1		39.4	2.6
3970	Fabricated Plastics	2		0.17		7.4		100.0	3.0
3980	Miscellaneous Manufacturing - General	11		2.94		56.1		43.8	2.4
3988	Caskets, Coffins	4		1.41		39.3		63.7	2.5
3993	Signs, Displays	3		2.19		17.5		18.3	4.6
3999	Construction Materials N.E.C.	3		1.62		31.4		44.5	2.0
	TOTAL - Miscellaneous Mfg.	29	9.93%	22.46%	2.98%	394.8	4.62%	40.25%	2.6 miles
ALL MANUFACTURING INDUSTRIAL PLANTS - TOTALS		292	100.0	752.30	100.0	8,541.0	100.0	26.10%	2.64 miles

Table VII

**SITE AREA OF MANUFACTURING INDUSTRIAL PLANTS
BY DETAILED S.I.C. CATEGORIES**

City of San Diego - January 1959

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SIC Cats.	Type of Industry	Total No. of Plants	Distribution of Plants According to Site Area (In Acres)									Site Area Totals (Ac)	Sub-Totals	
			Less Than 0.05	0.05- 0.09	0.10- 0.24	0.25- 0.49	0.50- 0.99	1.00- 2.49	2.50- 4.99	5.00- 9.99	10.00 & Over		Site Area (Ac)	Major SIC Group
1900	Ordinance	1									1	254.230	254.230	19
2010	Meat Packing	2						1			1	11.762		
2020	Dairy Products	7			2	1		4				5.592		
2031	Fish Cannery	10	1		3	1	1	2	2			13.636		
2033	Food Cannery	2				1	1					0.945		
2070	Candy, Confectionery	2			2							0.286		
2080	Bottling Plants	11			3	1	3	3	1			11.107		
2097	Ice Manufacturing	6			2	1	2	1				3.066		
2099	Miscellaneous Food Manufacturing	16	2		6	3	1	3	1			10.736	57.130	20
2300	Clothing Manufacturing	12	8	2			2					1.659		
2394	Canvas Tarps, Awnings	2	1			1						0.470	2.129	23
2400	Lumber - General	2			1	1						0.494		
2430	Millwork	2								2		13.491		
2499	Wood Products	20	3	3	6	4	2	1	1			8.229	22.214	24
2500	Furniture Manufacturing	11	1		3	6	1					3.777		
2562	Window Shades	1		1								0.060		
2563	Venetian Blinds	1		1								0.074	3.911	25
2600	Paper - All Types	6			2	2	1	1				3.250	3.250	26
2711	Newspaper - Publication	3	1		1	1						0.471		
2750	Commercial Printing	18	4	5	8		1					2.074		
2781	Bookbinding	1			1							0.114	2.659	27
2800	Chemical Manufacturing - General	6			5		1					1.408		
2823	Plastics Manufacturing	8	2	1	2	1		1	1			4.537		
2850	Paints	1			1							0.241		
2870	Fertilizers	2						1	1			5.818	12.004	28
2991	Packaged Fuels	1					1					0.821	0.821	29
3000	Rubber Products	1				1						0.445	0.445	30
1900- 3000	Sub-Totals	155	23	13	48	25	17	18	7	2	2	358.793	358.793	19- 30

Table VII (continued)

**SITE AREA OF MANUFACTURING INDUSTRIAL PLANTS
BY DETAILED S.I.C. CATEGORIES**

City of San Diego - January 1959

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SIC Cats.	Type of Industry	Total No. of Plants	Distribution of Plants According to Site Area (In Acres)									Site Area Totals (Ac)	Sub-Totals	
			Less Than 0.05	0.05- 0.09	0.10- 0.24	0.25- 0.49	0.50- 0.99	1.00- 2.49	2.50- 4.99	5.00- 9.99	10.00 & Over		Site Area (Ac)	Major SIC Group
1900- 3000	Sub-Totals from Part I	155	23	13	48	25	17	18	7	2	2	358.793	358.793	19- 30
3250	Brick & Tile Mfg.	2							1		1	38.188		
3254	Sewer Pipe	2			1					1		8.092		
3271	Concrete Block Mfg.	1			1							0.229		
3281	Stone Cutting	3			1	1	1					1.009	47.518	32
3300	Steel Pipe - General	15			6	4	1	3			1	21.427	21.427	33
3400	General Tools Etc.	20	3	5	7	4		1				5.200		
3468	Electroplating	6	1	2	2			1				1.438	6.638	34
3500	Machinery Manufacturing - General	8	1	1	1	2			2	1		15.139	15.139	35
3600	Electrical Machinery - General	5	1		4							0.675		
3610	Electrical Generating Equipment	1	1									0.007		
3620	Electrical Appliances	1			1							0.160		
3640	Electrical Equipment	5		1	2		2					1.889		
3650	Electric Lamps	1		1								0.056		
3660	Communication, Electronic Equip.	11	4	1	1	1			1	3		26.941	29.728	36
3710	Motor Vehicles & Equipment	5			3	1	1					1.425		
3721	Aircraft Manufacturing Assembly	10		1		2	1		2	1	3	206.272		
3729	Aircraft Parts (except engines)	2						1			1	23.178		
3731	Shipbuilding & Repair	7			1	1	2			3		19.439	250.314	37
3800	Professional, Scientific Equipment	3	1		2							0.285	0.285	38
3940	Toys, Sporting Goods	6	3	1	1						1	14.128		
3970	Fabricated Plastics	2	1		1							0.169		
3980	Miscellaneous Mfg. - General	11	3		4	1	3					2.936		
3988	Caskets, Coffins	4		1	1	1	1					1.414		
3993	Signs, Displays	3					3					2.189		
3999	Construction Materials, N.E.C.	3			1		2					1.620	22.456	39
1900- 3999	TOTALS	292	42	27	89	43	34	24	13	11	9	752.298	752.298	19- 39

Table VIII

**FLOOR AREA OF MANUFACTURING INDUSTRIAL PLANTS
BY DETAILED S.I.C. CATEGORIES**

City of San Diego - January 1959

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SIC Cats	Type of Industry	Total No. of Plants	Distribution of Plants According to Floor Area (000 sq. ft.)									Floor Area Totals Sq. Ft.	Sub-Totals	
			No Structure on Site	Under 1.00	1.00- 2.49	2.50- 4.99	5.00- 9.99	10.00- 24.99	25.00- 49.99	50.00- 99.99	100.00 & Over		Floor Area Sq. Ft.	Major SIC Group
1900	Ordinance	1									1	836,025	836,025	19
2010	Meat Packing	2							2			83,000		
2020	Dairy Products	7					3	1	3			136,550		
2031	Fish Cannery	10	1	1		1	3	1	1	1	1	338,395		
2033	Food Cannery	2					1		1			50,450		
2070	Candy, Confectionery	2				2						8,250		
2080	Bottling Plants	11					4	4	3			191,100		
2097	Ice Manufacturing	6					4	1		1		104,850		
2099	Miscellaneous Food Mfg.	16			3	4	2	5	1	1		203,825	1,116,420	20
2300	Clothing Manufacturing	12		5	4	1			2			72,538		
2394	Canvas Tarps, Awnings	2			1			1				16,500	89,038	23
2400	Lumber - General	2			1		1					11,190		
2430	Millwork	2						1	1			67,375		
2499	Wood Products	20		2	3	9	5	1				75,675	154,240	24
2500	Furniture Manufacturing	11			3	1	3	3	1			93,575		
2562	Window Shades	1			1							1,500		
2563	Venetian Blinds	1				1						3,254	98,329	25
2600	Paper - All Types	6		1	1		1	2		1		92,425	92,425	26
2711	Newspaper Publication	3		1			1	1				20,580		
2750	Commercial Printing	18		1	4	6	6	1				84,425		
2781	Bookbinding	1				1						3,600	108,605	27
2800	Chemical Mfg. - General	6				1	4	1				47,000		
2823	Plastics Manufacturing	8		2		2	3	1				43,100		
2850	Paints	1				1						3,500		
2870	Fertilizers	2				1				1		67,275	160,875	28
2991	Packaged Fuels	1					1					7,200	7,200	29
3000	Rubber Products	1						1				13,300	13,300	30
1900- 3000	Sub-Totals	155	1	13	21	31	42	25	15	5	2	2,676,457	2,676,457	19- 30

Table VIII (continued)

FLOOR AREA OF MANUFACTURING INDUSTRIAL PLANTS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SIC Cats	Type of Industry	Total No. of Plants	Distribution of Plants According to Floor Area (000 sq. ft.)									Floor Area Totals Sq. Ft.	Sub-Totals	
			No Structure on Site	Under 1.00	1.00- 2.49	2.50- 4.99	5.00- 9.99	10.00- 24.99	25.00- 49.99	50.00- 99.99	100.00 & Over		Floor Area Sq. Ft.	Major SIC Group
1900- 3000	Sub-Totals from Part I	155	1	13	21	31	42	25	15	5	2	2,676,457	2,676,457	19- 30
3250	Brick & Tile Manufacturing	2	1				1					5,000		
3254	Sewer Pipe	2	1		1							2,100		
3271	Concrete Block Manufacturing	1			1							1,000		
3281	Stone Cutting	3			1	2						7,500	15,600	32
3300	Steel Pipe - General	15		1	2	3	4	2	1	1	1	323,275	323,275	33
3400	General Tools Etc.	20		1	7	5	5	1	1			116,625		
3468	Electroplating	6			2	2	2					21,520	138,145	34
3500	Machinery Mfg. - General	8	1		1	1	1	2	2			106,925	106,925	35
3600	Electrical Machinery-General	5			1	2	2					18,980		
3610	Electrical Generating Equipment	1		1								0,300		
3620	Electrical Appliances	1				1						2,500		
3640	Electrical Equipment	5			1	1	1	1	1			60,365		
3650	Electric Lamps	1			1							2,450		
3660	Communication, Electronic Eqpt.	11		4	1	1	2	1	1	1		131,925	216,520	36
3710	Motor Vehicles & Equipment	5			1	3	1					18,275		
3721	Aircraft Manufacturing Assembly	10				1		4			5	4,022,089		
3729	Aircraft Parts (except engines)	2						1			1	478,650		
3731	Shipbuilding & Repair	7				1	3		3			140,450	4,659,464	37
3800	Professional, Scientific Eqpt.	3			1	2						9,900	9,900	38
3940	Toys, Sporting Goods	6		3		2					1	243,085		
3970	Fabricated Plastics	2			1		1					7,375		
3980	Miscellaneous Mfg. - General	11		3	3		3	2				56,050		
3988	Caskets, Coffins	4		1			1	2				39,300		
3993	Signs, Displays	3				1	1	1				17,500		
3999	Construction Materials, N.E.C.	3				1		2				31,450	394,760	39
1900- 3900	TOTALS	292	4	27	46	60	70	44	24	7	10	8,541,046	8,541,046	19- 39

Table IX

**STRUCTURAL DENSITY OF MANUFACTURING INDUSTRIAL PLANTS
BY DETAILED S.I.C. CATEGORIES**

City of San Diego - January 1959

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
SIC Cats.	Type of Industry	Total No. of Plants	Distribution of Plants According to Structural Density (% Site Covered)												Mean Average Structural Density: SIC Cats.	Mean Average Structural Density: SIC Groups	Major SIC Groups
			No Structure on Site	Under 10.0%	10.0- 19.9%	20.0- 29.9%	30.0- 39.9%	40.0- 49.9%	50.0- 59.9%	60.0- 69.9%	70.0- 79.9%	80.0- 89.9%	90.0- 99.9%	100% Coverage			
1900	Ordnance	1		1											7.5%	7.5%	19
2010	Meat Packing	2		1								1			16.2		
2020	Dairy Products	7				1	1	1	1	1		1		1	56.0		
2031	Fish Cannery	10	1			1		1	1		3			3	56.9		
2033	Food Cannery	2							1					1	88.5		
2070	Candy, Confectionery	2								1	1				62.1		
2080	Bottling Plants	11		1		2		2	1	1		1	1	2	39.5		
2097	Ice Manufacturing	6					1	1				1	1	2	78.5		
2099	Miscellaneous Food Manufacturing	16			1	3	2	2			1	1	3	3	43.5	44.8%	20
2300	Clothing Manufacturing	12												12	100.0		
2394	Canvas Tarps, Awnings	2									1			1	80.6	95.9%	23
2400	Lumber - General	2			1									1	52.0		
2430	Millwork	2			2										11.9		
2499	Wood Products	20		3		3	1	3	1	1	1	1	1	5	20.9	15.9%	24
2500	Furniture Manufacturing	11			2		2	1	1	3				2	57.0		
2562	Window Shades	1							1						57.1		
2563	Venetian Blinds	1												1	100.0	57.8%	25
2600	Paper - All Types	6		1	1				1			1		2	65.2	65.2%	26
2711	Newspaper Publication	3												3	100.0		
2750	Commercial Printing	18						1		1		2		14	93.2		
2781	Bookbinding	1									1				72.0	93.7%	27
2800	Chemical Manufacturing - General	6								2			1	3	76.8		
2823	Plastics Manufacturing	8		1	1					1		2		3	21.8		
2850	Paints	1					1								33.3		
2870	Fertilizers	2		1								1			26.6	30.6	28
2991	Packaged Fuels	1				1									20.1	20.1	29
3000	Rubber Products	1								1					68.5	68.5	30
1900- 3000	SUB-TOTALS	155	1	9	8	11	8	12	8	12	8	12	7	59	--	--	19- 30

Table IX (continued)

**STRUCTURAL DENSITY OF MANUFACTURING INDUSTRIAL PLANTS
BY DETAILED S.I.C. CATEGORIES**

City of San Diego - January 1959

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
SIC Cats.	Type of Industry	Total No. of Plants	Distribution of Plants According to Structural Density (% Site Covered)												Mean Average Structural Density: SIC Cats.	Mean Average Structural Density: SIC Groups	Major SIC Groups
			No Structure on Site	Under 10.0%	10.0- 19.9%	20.0- 29.9%	30.0- 39.9%	40.0- 49.9%	50.0- 59.9%	60.0- 69.9%	70.0- 79.9%	80.0- 89.9%	90.0- 99.9%	100% Coverage			
1900-3000	Sub-Totals from Part I	155	1	9	8	11	8	12	8	12	8	12	7	59	-	-	19-30
3250	Brick & Tile Manufacturing	2	1	1		1									0.003		
3254	Sewer Pipe	2	1			1									0.006		
3271	Concrete Block Manufacturing	1			1										10.0		
3281	Stone Cutting	3			2	1									17.1	0.7	32
3300	Steel Pipe - General	15		1	1	1	3	2	2	1	1	2		1	34.6	34.6	33
3400	General Tools, etc.	20		1	2	1	1	4	1		1		1	8	51.5		
3468	Electro Plating	6			1			1			1			3	34.3	47.8	34
3500	Machinery Manufacturing - General	8	1	1	1	1			1		1	1		1	16.2	16.2	35
3600	Electrical Machinery - General	5							3					2	64.5		
3610	Electrical Generating Equipment	1												1	100.0		
3620	Electrical Appliances	1					1								35.7		
3640	Electrical Equipment	5				1		1				1	1	1	73.4		
3650	Electric Lamps	1												1	100.0		
3660	Communication, Electronic Eqpt.	11		2	2	2	1							4	11.2	16.6	36
3710	Motor Vehicles & Equipment	5			1		2	1	1						29.5		
3721	Aircraft Manufacturing, Assembly	10		2				2		1	1	1		3	44.7		
3729	Aircraft Parts (except Engines)	2				1		1							47.4		
3731	Shipbuilding & Repair	7			3	2		2							16.6	42.5	37
3800	Professional, Scientific Eqpt.	3								1			1	1	79.4	79.4	38
3940	Toys, Sporting Goods	6					1	1	1					3	39.4		
3970	Fabricated Plastics	2												2	100.0		
3980	Miscellaneous Mfg. - General	11		1	1	1	1	2	1					4	43.8		
3988	Caskets, Coffins	4				1	1					1	1		63.7		
3993	Signs, Displays	3			2	1									18.3		
3999	Construction Materials, N.E.C.	3				1		1	1						44.5	40.3	39
1900-3900	TOTALS	292	4	18	25	26	19	30	19	15	13	18	11	94	26.1%	26.1%	19-39

Table X

**LOCATION, IN RELATION TO 5TH & BROADWAY, OF MANUFACTURING INDUSTRIAL PLANTS
BY DETAILED S.I.C. CATEGORIES**

City of San Diego - January 1959

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
SIC Cats.	Type of Industry	Total No. of Plants	Distribution of Plants According to Distance from 5th & Broadway (Concentric 1 Mile Rings)													Mean Average Distance: SIC Cats. (Miles)	Mean Average Distance: SIC Groups (Miles)	Major SIC Groups
			Under 1 Mile	1.0- 1.9 mi.	2.0- 2.9 mi.	3.0- 3.9 mi.	4.0- 4.9 mi.	5.0- 5.9 mi.	6.0- 6.9 mi.	7.0- 7.9 mi.	8.0- 8.9 mi.	9.0- 9.9 mi.	10.0- 10.9 mi.	11.0- 11.9 mi.	12.0- 13.0 mi.			
1900	Ordinance	1								1						7.3 mi.	7.3 mi.	19
2010	Meat Packing	2		1		1										2.3		
2020	Dairy Products	7	4		1	2										1.7		
2031	Fish Cannery	10	1	3		6										2.8		
2033	Food Cannery	2	2													0.6		
2070	Candy, Confectionery	2	2													0.5		
2080	Bottling Plants	11	2	2	1	4		2								2.8		
2097	Ice Manufacturing	6	4		1	1										1.5		
2099	Miscellaneous Food Manufacturing	16	4	8	3	1										1.5	2.0	20
2300	Clothing Manufacturing	12	11			1										0.4		
2394	Canvas Tarps, Awnings	2	2													0.3	0.4	23
2400	Lumber - General	2							1				1			8.6		
2430	Millwork	2	2													0.7		
2499	Wood Products	20	1	6	3	2	2	4	1						1	3.5	3.7	24
2500	Furniture Manufacturing	11	3	3	2	3										1.0		
2562	Window Shades	1				1										3.1		
2563	Venetian Blinds	1			1											2.9	2.2	25
2600	Paper - All Types	6	2		2	1					1					2.9	2.9	26
2711	Newspaper Publication	3	2				1									1.7		
2750	Commercial Printing	18	8	4	4			1		1						1.8		
2781	Bookbinding	1	1													0.1	1.7	27
2800	Chemical Manufacturing - General	6	2	1			1	1		1						3.4		
2823	Plastics Manufacturing	8	2			2		1	2	1						4.3		
2850	Paints	1		1												1.8		
2870	Fertilizers	2		1						1						4.3	3.8	28
2991	Packaged Fuels	1					1									4.1	4.1	29
3000	Rubber Products	1								1						7.1	7.1	30
1900- 3000	SUB-TOTALS	155	55	30	18	25	5	9	4	6	1	None	1	None	1	-	-	19- 30

Table X (continued)

LOCATION, IN RELATION TO 5TH & BROADWAY, OF MANUFACTURING INDUSTRIAL PLANTS
BY DETAILED S.I.C. CATEGORIES

City of San Diego - January 1959

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
SIC Cats.	Type of Industry	Total No. of Plants	Distribution of Plants According to Distance from 5th & Broadway (Concentric 1 Mile Rings)													Mean Average Distance: SIC Cats (Miles)	Mean Average Distance: SIC Groups (Miles)	Major SIC Groups
			Under 1 Mile	1.0- 1.9 mi.	2.0- 2.9 mi.	3.0- 3.9 mi.	4.0- 4.9 mi.	5.0- 5.9 mi.	6.0- 6.9 mi.	7.0- 7.9 mi.	8.0- 8.9 mi.	9.0- 9.9 mi.	10.0- 10.9 mi.	11.0- 11.9 mi.	12.0- 13.0 mi.			
1900- 3000	Sub-Totals From Part I	155	55	30	18	25	5	9	4	6	1	None	1	None	1	-	-	19- 30
3250	Brick & Tile Manufacturing	2				1									1	8.3		
3254	Sewer Pipe	2		1	1											2.0		
3271	Concrete Block Manufacturing	1		1												1.9		
3281	Stone Cutting	3			3											2.5	3.8	32
3300	Steel Pipe - General	15	5	6	1	1	1						1			2.1	2.1	33
3400	General Tools etc.	20	4	3	5	6		1	1							2.5		
3468	Electro-Plating	6	3	1		1				1						2.2	2.5	34
3500	Machinery Manufacturing - General	8	2	1	1	1			1	2						3.9	3.9	35
3600	Electrical Machinery - General	5	3						2							2.9		
3610	Electrical Generating Equipment	1				1										3.2		
3620	Electrical Appliances	1				1										3.5		
3640	Electrical Equipment	5		1		2	2									3.3		
3650	Electric Lamps	1					1									4.2		
3660	Communication, Electronic Eqpt.	11		2	1		2	1		3			1	1		5.9	4.5	36
3710	Motor Vehicles & Equipment	5		2	2	1										2.3		
3721	Aircraft Manufacturing, Assembly	10	2	5		2				1						2.4		
3729	Aircraft Parts (except Engines)	2	1	1												1.0		
3731	Shipbuilding & Repair	7		5		2										2.1	2.2	37
3800	Professional, Scientific Eqpt.	3	2		1											1.2	1.2	38
3940	Toys, Sporting Goods	6	2			3	1									2.6		
3970	Fabricated Plastics	2			1	1										3.0		
3980	Miscellaneous Mfg. - General	11	1	5	2	1	1	1								2.4		
3988	Caskets, Coffins	4		1	2		1									2.5		
3993	Signs, Displays	3			1			2								4.6		
3999	Construction Materials, N.E.C.	3	1	1		1										2.0	2.6	39
1900- 3900	TOTALS	292	81	66	39	50	14	14	8	13	1	None	3	1	2	2.64	2.64	19- 39

Section C

DISTRIBUTION OF PLANTS IN RELATIONSHIP TO DISTANCE FROM 5TH AND BROADWAY

Table XI Comparative Summary of Plant Characteristics

- XII Site Area
- XIII Floor Area
- XIV Structural Density
- XV Types of Manufacturing Plants - Major S.I.C. Groups

Table XI

**COMPARATIVE SUMMARY OF PLANT CHARACTERISTICS
IN RELATION TO DISTANCE FROM 5TH AND BROADWAY**

ALL MANUFACTURING INDUSTRIAL PLANTS

City of San Diego - January 1959

1	2	3	4	5	6	7	8	9
Distance from 5th & Broadway (Concentric 1 Mile Rings)	Plants		Site Area		Floor Area		Mean Structural Density (% Site Covered)	Number of Types of Industry (Detailed SIC Cats. in Rings)
	No.	% Total	Acres	% Total	000 Sq. Ft.	% Total		
Under 1 mile	81	27.7%	60.337	8.02%	1,253.4	14.68%	47.75%	29
1.0 - 1.9 mi.	66	22.7	200.997	26.72	3,709.4	43.44	42.40	25
2.0 - 2.9	39	13.3	21.749	2.89	265.7	3.11	28.05	22
3.0 - 3.9	50	17.1	96.018	12.77	1,775.9	20.78	42.50	27
4.0 - 4.9	14	4.9	16.672	2.22	282.5	3.31	38.90	10
5.0 - 5.9	14	4.9	9.617	1.28	117.7	1.38	28.10	8
6.0 - 6.9	8	2.7	4.103	0.55	28.4	0.33	15.85	6
7.0 - 7.9	13	4.4	298.187	39.64	1,043.7	12.22	8.05	10
8.0 - 8.9	1	0.3	0.286	0.03	12.5	0.15	100.00	1
9.0 - 9.9	-	-	-	-	-	-	-	-
10.0 - 10.9	3	1.0	0.404	0.05	11.5	0.13	64.35	3
11.0 - 11.9	1	0.3	6.131	0.81	30.9	0.36	11.60	1
12.0 - 13.0	2	0.7	37.797	5.02	9.5	0.11	0.58	2
TOTALS	292	100.0	752.298	100.00	8,541.1	100.00	26.10	52

Table XII

SITE AREA OF MANUFACTURING INDUSTRIAL PLANTS
IN RELATION TO DISTANCE FROM 5TH AND BROADWAY

City of San Diego - January 1959

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Distance from 5th & Broadway (Concentric 1 Mile Rings)	Distribution of Plants by Site Area (Acres) Within Concentric Rings														Total Plants	
	Under 0.01 Acre	0.010- 0.024	0.025- 0.049	0.050- 0.099	0.10- 0.24	0.25- 0.49	0.50- 0.99	1.00- 2.49	2.50- 4.99	5.0- 9.9	10.0- 24.9	25.0- 49.9	50.0- 99.9	100.0 & over		
	No.	% Total														
Under 1 Mile	4	6	6	6	29	13	9	4	-	3	1	-	-	-	81	27.7
1 - 1.9 "	-	3	3	3	22	10	7	7	5	3	1	1	1	-	66	22.7
2 - 2.9 "	-	-	4	6	11	9	5	3	-	1	-	-	-	-	39	13.3
3 - 3.9 "	2	4	2	7	14	5	7	6	1	-	1	-	1	-	50	17.1
4 - 4.9 "	2	3	-	2	2	1	3	-	-	-	1	-	-	-	14	4.9
5 - 5.9 "	-	-	2	2	3	1	3	2	1	-	-	-	-	-	14	4.9
6 - 6.9 "	-	-	-	1	4	2	-	-	1	-	-	-	-	-	8	2.7
7 - 7.9 "	-	-	-	-	2	1	-	2	4	3	-	-	-	1	13	4.4
8 - 8.9 "	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	0.3
9 - 9.9 "	-	-	-	-	-	-	-	-	-	-	-	-	-	-	None	-
10 - 10.9 "	-	-	1	-	2	-	-	-	-	-	-	-	-	-	3	1.0
11 - 11.9 "	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	0.3
12 - 13.0 "	-	-	-	-	-	-	-	-	1	-	-	1	-	-	2	0.7
TOTALS	8	16	18	27	89	43	34	24	13	11	4	2	2	1	292	100.0

Table XIII

**FLOOR AREA OF MANUFACTURING INDUSTRIAL PLANTS
IN RELATION TO DISTANCE FROM 5TH AND BROADWAY**

City of San Diego - January 1959

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Distance from 5th & Broadway (Concentric 1 Mile Rings)	Distribution of Plants by Floor Area (Sq. Ft.) Within Concentric Circles												Total Plants	
	None (no structure)	Under 1000	1000- 2499	2500- 4999	5000- 9999	10,000- 24,999	25,000- 49,999	50,000- 99,999	100,000- 249,999	250,000- 499,999	500,000- 999,999	1,000,000 and over	No.	% Total
Under 1 Mile	-	9	12	12	23	15	8	1	-	1	-	-	81	27.7
1 - 1.9 "	-	3	13	11	11	13	6	3	4	-	1	1	66	22.7
2 - 2.9 "	1	2	10	13	7	5	-	1	-	-	-	-	39	13.3
3 - 3.9 "	2	5	6	12	13	4	6	1	-	-	-	1	50	17.1
4 - 4.9 "	-	5	1	3	3	1	-	-	1	-	-	-	14	4.9
5 - 5.9 "	-	2	2	3	4	1	2	-	-	-	-	-	14	4.9
6 - 6.9 "	1	-	1	4	2	-	-	-	-	-	-	-	8	2.7
7 - 7.9 "	-	-	-	1	5	4	1	1	-	-	1	-	13	4.4
8 - 8.9 "	-	-	-	-	-	1	-	-	-	-	-	-	1	0.3
9 - 9.9 "	-	-	-	-	-	-	-	-	-	-	-	-	None	-
10 - 10.9 "	-	1	1	-	1	-	-	-	-	-	-	-	3	1.0
11 - 11.9 "	-	-	-	-	-	-	1	-	-	-	-	-	1	0.3
12 - 13.0 "	-	-	-	1	1	-	-	-	-	-	-	-	2	0.7
TOTALS	4	27	46	60	70	44	24	7	5	1	2	2	292	100.0

Table XIV

**STRUCTURAL DENSITY OF MANUFACTURING INDUSTRIAL PLANTS
IN RELATION TO DISTANCE FROM 5TH AND BROADWAY**

City of San Diego - January 1959

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Distance from 5th & Broadway (Concentric 1 Mile Rings)	Distribution of Plants by Structural Density (% Site Covered by Buildings)												Total Plants	
	None (No floor area)	Under 10%	10.0- 19.9%	20.0- 29.9%	30.0- 39.9%	40.0- 49.9%	50.0- 59.9%	60.0- 69.9%	70.0- 79.9%	80.0- 89.9%	90.0- 99.9%	100.0% & over	No.	% Total
Under 1 Mile	-	1	3	-	3	3	7	5	5	7	3	44	81	27.7
1 - 1.9 "	-	2	6	10	5	12	5	2	5	4	4	11	66	22.7
2 - 2.9 "	1	-	7	7	4	4	1	2	1	3	1	8	39	13.3
3 - 3.9 "	2	3	2	4	3	8	4	2	2	3	3	14	50	17.1
4 - 4.9 "	-	-	-	2	3	-	-	1	-	1	-	7	14	4.9
5 - 5.9 "	-	3	1	2	1	2	-	1	-	-	-	4	14	4.9
6 - 6.9 "	1	1	1	-	-	1	2	1	-	-	-	1	8	2.7
7 - 7.9 "	-	6	3	1	-	-	-	1	-	-	-	2	13	4.4
8 - 8.9 "	-	-	-	-	-	-	-	-	-	-	-	1	1	0.3
9 - 9.9 "	-	-	-	-	-	-	-	-	-	-	-	-	None	-
10 - 10.9 "	-	-	1	-	-	-	-	-	-	-	-	2	3	1.0
11 - 11.9 "	-	-	1	-	-	-	-	-	-	-	-	-	1	0.3
12 - 13.0 "	-	2	-	-	-	-	-	-	-	-	-	-	2	0.7
TOTALS	4	18	25	26	19	30	19	15	13	18	11	94	292	100.0

Table XV

**TYPES OF MANUFACTURING INDUSTRIAL PLANTS, BY MAJOR S.I.C. GROUPS
IN RELATION TO DISTANCE FROM 5TH & BROADWAY**

City of San Diego - January 1959

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Distance from 5th & Broadway (Concentric 1 Mile Rings)	Distribution of Plants, by Major S.I.C. Groups (19 through 39)																					Total Plants	
	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	No.	% Total
Under 1 Mile	-	19	-	-	13	3	3	2	11	4	-	-	-	-	5	7	2	3	3	2	4	81	27.7
1.0 - 1.9 "	-	14	-	-	-	6	3	-	4	3	-	-	-	2	6	4	1	3	13	-	7	66	22.7
2.0 - 2.9 "	-	6	-	-	-	3	3	2	4	-	-	-	-	4	1	5	1	1	2	1	6	39	13.3
3.0 - 3.9 "	-	15	-	-	1	2	4	1	-	2	-	-	-	1	1	7	1	4	5	-	6	50	17.1
4.0 - 4.9 "	-	-	-	-	-	2	-	-	1	1	1	-	-	-	1	-	-	5	-	-	3	14	4.9
5.0 - 5.9 "	-	2	-	-	-	4	-	-	1	2	-	-	-	-	-	1	-	1	-	-	3	14	4.9
6.0 - 6.9 "	-	-	-	-	-	2	-	-	-	2	-	-	-	-	-	1	1	2	-	-	-	8	2.7
7.0 - 7.9 "	1	-	-	-	-	-	-	-	1	3	-	1	-	-	-	1	2	3	1	-	-	13	4.4
8.0 - 8.9 "	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0.3
9.0 - 9.9 "	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	None	-
10.0 - 10.9 "	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	3	1.0
11.0 - 11.9 "	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	0.3
12.0 - 13.0 "	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	2	0.7
TOTAL NUMBER OF PLANTS	1	56	None	None	14	24	13	6	22	17	1	1	None	8	15	26	8	24	24	3	29	292	100.0

Section D

COMPARATIVE ANALYSIS OF PLANT CHARACTERISTICS BY MAJOR S.I.C. GROUPS

Table XVI	Comparative Summary of Plant Characteristics
XVII	Comparative Summary of Average Plant Characteristics
XVIII	Comparative Summary of Characteristics of Range in Areas, Location, etc.
XIX	Comparative Summary of Ranking of Plant Characteristics
XX	Comparative Summary of Ranking, arranged in order of size

Table XVI

COMPARATIVE SUMMARY OF PLANT CHARACTERISTICS BY MAJOR S.I.C. GROUP

ALL MANUFACTURING INDUSTRIAL PLANTS

City of San Diego - January 1959

1	2	3	4	5	6	7	8	9	10
Major S.I.C. Group	Type of Industry	Plants		Site Area		Floor Area		Mean Structural Density (% Site Covered)	Mean Distance From 5th & Broadway (Miles)
		No.	% Total	Acres	% Total	000 Sq. Ft.	% Total		
19	Ordnance Manufacturing	1	0.34%	254.23	33.80%	836.0	9.79%	7.55%	7.3 miles
20	Food Manufacturing	56	19.20	57.13	7.59	1,116.4	13.07	44.80	2.0
21	Tobacco Products Manufacturing	None	-	-	-	-	-	-	-
22	Textile Milling	None	-	-	-	-	-	-	-
23	Clothing Manufacturing	14	4.79	2.13	0.28	89.0	1.04	95.88	0.4
24	Lumber Products	24	8.22	22.21	2.95	154.2	1.81	15.95	3.7
25	Furniture Manufacturing	13	4.45	3.91	0.52	98.3	1.15	57.80	2.2
26	Paper & Paper Products	6	2.03	3.25	0.43	92.4	1.09	65.25	2.9
27	Printing and Publishing	22	7.54	2.66	0.35	108.6	1.27	93.75	1.7
28	Chemical Manufacturing	17	5.83	12.00	1.59	160.9	1.89	30.64	3.8
29	Petroleum Products and Fuel	1	0.34	0.82	0.11	7.2	0.08	20.12	4.1
30	Rubber Products Manufacturing	1	0.34	0.44	0.06	13.3	0.16	68.48	7.1
31	Leather & Leather Products	None	-	-	-	-	-	-	-
32	Stone, Clay & Glass Products	8	2.74	47.52	6.32	15.6	0.18	0.76	3.8
33	Metal Production, Mills, Foundries, etc.	15	5.14	21.43	2.85	323.3	3.78	34.58	2.1
34	Fabricated Metal Products	26	8.90	6.64	0.88	138.2	1.62	47.75	2.5
35	Machinery Mfg. (except Electrical)	8	2.74	15.14	2.01	106.9	1.25	16.19	3.9
36	Electrical Machinery Mfg. and Electronics	24	8.22	29.73	3.95	216.5	2.53	16.65	4.5
37	Transportation Equipment Mfg.	24	8.22	250.31	33.29	4,659.5	54.55	42.66	2.2
38	Professional Scientific Equip. Mfg.	3	1.03	0.29	0.04	9.9	0.12	79.40	1.2
39	Miscellaneous Manufacturing	29	9.93	22.46	2.98	394.8	4.62	40.25	2.6
All Manufacturing Industries - TOTAL		292	100.00	752.30	100.00	8,541.0	100.00	26.10%	2.64 miles

Table XVII

**COMPARATIVE SUMMARY OF AVERAGE PLANT CHARACTERISTICS
BY MAJOR S.I.C. GROUPS**

City of San Diego - January 1959

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Major SIC Group	Type of Industry	No. of Plants	Site Area (Acres)			Floor Area (000 sq. ft.)			Structural Density (% site covered)			Distance from 5th & Broadway (Miles)		
			Mean	Median	Mode	Mean	Median	Mode	Mean	Median	Mode	Mean	Median	Mode
19	Ordinance Manufacturing	1	254.23	None	None	836.0	None	None	7.55%	None	None	7.3	None	None
20	Food Manufacturing	56	1.02	0.46	0.23	19.9	9.1	5.0	44.80	62.76	100.00	2.0	1.5	0.7 & 3.8
21	Tobacco Products Manufacturing	None	-	-	-	-	-	-	-	-	-	-	-	-
22	Textile Milling	None	-	-	-	-	-	-	-	-	-	-	-	-
23	Clothing Manufacturing	14	0.15	0.03	0.69	6.4	1.3	30.0	94.88	100.00	100.00	0.4	0.2	0.2
24	Lumber Products	24	0.92	0.21	0.21 & 0.29	6.4	3.3	2.6	15.95	47.17	100.00	3.7	3.2	5.5
25	Furniture Manufacturing	13	0.30	0.27	0.16 & 0.40	7.6	5.0	5.0	57.80	57.14	100.00	2.2	2.8	{0.7 & 1.2} {2.8 & 3.8}
26	Paper & Paper Products	6	0.54	0.38	None	15.4	8.7	None	65.25	68.30	100.00	2.9	2.7	None
27	Printing & Publishing	22	0.12	0.11	0.11	4.9	3.6	5.0	93.75	100.00	100.00	1.7	1.2	1.2
28	Chemical Manufacturing	17	0.71	0.15	0.14	9.5	5.6	6.2	30.64	84.72	100.00	3.8	3.4	5.6 & 6.8
29	Petroleum Products & Fuel	1	0.82	None	None	7.2	None	None	20.12	None	None	4.1	None	None
30	Rubber Products Manufacturing	1	0.44	None	None	13.3	None	None	68.20	None	None	7.1	None	None
31	Leather & Leather Products	None	-	-	-	-	-	-	-	-	-	-	-	-
32	Stone, Clay, & Glass Products	8	5.94	0.44	None	1.9	1.6	0.0 & 1.0	0.76	12.95	0.00	3.8	2.5	2.5
33	Metal Production, Mills, Foundries	15	1.43	0.32	0.16	21.6	6.0	None	34.58	42.85	None	2.1	1.1	1.1
34	Fabricated Metal Products	26	0.26	0.11	0.08 & 0.11	5.3	3.6	5.0	47.75	73.30	100.00	2.5	2.4	{0.2 & 2.4} {3.5}
35	Machinery Mfg. (except Electrical)	8	1.89	0.36	None	13.4	7.8	None	16.19	37.12	None	3.9	3.1	0.8
36	Electrical Machinery (electronics)	24	1.24	0.16	{0.11 & 0.16} 0.23	9.0	3.0	0.8	16.70	55.00	100.00	4.5	4.0	7.8
37	Transportation Equipment Mfg.	24	10.43	0.71	0.16	194.1	18.8	None	42.66	40.23	100.00	2.2	1.5	1.5
38	Professional, Scientific Equipment	3	0.95	0.11	None	3.3	4.9	None	79.40	90.00	None	1.2	0.8	None
39	Miscellaneous Manufacturing	29	0.77	0.16	0.11	13.6	3.0	{0.8 & 5.0} {2.5 & 10.0}	40.25	45.42	100.00	2.6	2.6	1.1 & 5.6
All Manufacturing Industrial Plants		292	2.58	0.23	0.11	29.2	5.0	5.0	26.10%	62.76%	100.00	2.6	1.9	1.5

MEAN - Total $\left(\frac{\text{Acres, sq. ft. miles}}{\text{Number of Plants}} \right)$ (Except Mean Structural Density - $\frac{\text{Total Floor Area}}{\text{Total Site Area}} \times 100$)

MEDIAN - The Mid-Point, with equal number of plants greater and smaller

MODE - The most frequent, usual case in size of plant, etc.

Table XVIII

COMPARATIVE SUMMARY OF CHARACTERISTICS OF RANGE IN AREAS, LOCATION, ETC.

BY MAJOR S.I.C. GROUPS

City of San Diego - January 1959

1	2	3	4a	4b	5	6	7	8a	8b	9	10	11	12a	12b	13	14a	14b	15
Major SIC Group	Type of Industry	No. of Plants	Site Area				Floor Area				Structural Density		Distance from 5th & Broadway					
			Range (Acres)	Coefficient of Variation	Variation Index	Mean Interval (Acres)	Range (000 sq.ft.)	Coefficient of Variation	Variation Index	Mean Interval (000 sq.ft.)	Range (% site covered)	Mean Interval (% site covered)	Range (Miles)	Mean Interval (Miles)				
19	Ordnance Manufacturing	1	None	-	-	-	None	-	-	-	None	-	None	-				
20	Food Manufacturing	56	0.017-10.385	610.8	10.9	0.185	*0.75-153.24	*204.3	*3.6	2.74	0.0-100.0	1.78	0.3- 5.5	0.093				
21	Tobacco Products Manufacturing	None	-	-	-	-	-	-	-	-	-	-	-	-				
22	Textile Milling	None	-	-	-	-	-	-	-	-	-	-	-	-				
23	Clothing Manufacturing	14	0.005- 0.688	137.6	9.8	0.048	0.31- 30.00	96.8	6.9	2.12	78.9-100.0	1.51	0.1- 3.2	0.221				
24	Lumber Products	24	0.008- 8.209	1026.1	42.7	0.342	0.35- 42.60	121.7	5.1	1.76	3.0-100.0	4.04	0.3-12.5	0.508				
25	Furniture Manufacturing	13	0.022- 0.932	42.3	3.2	0.070	1.50- 26.40	17.6	1.3	1.91	12.0-100.0	6.62	0.5- 3.8	0.254				
26	Paper & Paper Products	6	0.114- 1.566	13.7	2.3	0.242	0.95- 58.50	61.5	10.2	9.59	5.8-100.0	15.70	0.2- 8.0	1.300				
27	Printing & Publishing	22	0.010- 0.688	68.8	3.1	0.031	0.48- 24.10	50.2	2.3	1.07	40.0-100.0	2.73	0.1- 7.2	0.322				
28	Chemical Manufacturing	17	0.003- 4.097	1365.3	80.3	0.241	0.15- 63.40	422.6	24.8	3.72	2.2-100.0	5.75	0.1- 7.9	0.459				
29	Petroleum Products & Fuel	1	None	-	-	-	None	-	-	-	None	-	None	-				
30	Rubber Products Manufacturing	1	None	-	-	-	None	-	-	-	None	-	None	-				
31	Leather & Leather Products	None	-	-	-	-	-	-	-	-	-	-	-	-				
32	Stone, Clay & Glass Products	8	0.126-34.343	272.5	35.3	4.277	*1.00- 5.00	*5.0	*0.6	0.62	0.0- 21.8	2.72	1.2-12.8	1.450				
33	Metal Production, Mills, Foundries	15	0.114-13.349	117.1	7.8	0.882	0.80-151.00	188.7	12.6	10.01	7.5-100.0	6.17	0.6-10.5	0.660				
34	Fabricated Metal Products	26	0.025- 2.086	83.4	3.2	0.079	0.60- 42.35	70.6	2.7	1.61	9.8-100.0	3.47	0.2- 7.8	0.292				
35	Machinery Mfg. (except Electrical)	8	0.022- 6.060	275.4	34.4	0.755	*1.00- 40.00	*40.0	*5.0	5.00	0.0-100.0	12.50	0.8- 7.9	0.888				
36	Electrical Machinery, Electronics	24	0.070- 9.324	133.2	5.5	0.386	0.30- 62.50	208.3	8.7	2.59	3.4-100.0	4.02	0.1-11.1	0.458				
37	Transportation Equipment Mfg.	24	0.091-82.826	910.1	37.9	3.447	2.10-1720.80	819.4	34.1	71.61	5.6-100.0	3.93	0.7- 7.5	0.283				
38	Professional, Scientific Equipment	3	0.035- 0.135	3.9	1.3	0.033	1.50- 4.50	3.0	1.0	1.00	65.0-100.0	11.67	0.1- 2.6	0.833				
39	Miscellaneous Manufacturing	29	0.004-13.877	3469.2	119.6	0.478	0.20-235.50	1177.5	40.6	8.11	8.3-100.0	3.16	0.2- 5.6	0.186				
All Manufacturing Industrial Plants		292	0.003-254.230	84743.3	290.2	0.871	0.15-1720.80	11,472.0	39.3	5.89	0.0-100.0	0.34	0.1-12.8	0.043				

$$\frac{(4b)}{(4a)}$$

$$\frac{(5)}{(3)}$$

$$\frac{(4b)-(4a)}{(3)}$$

*Plants with
no structures
not included
in calculations.

$$\frac{(8b)}{(8a)}$$

$$\frac{(9)}{(3)}$$

$$\frac{(8b)-(8a)}{(3)}$$

$$\frac{(12b)-(12a)}{(3)}$$

$$\frac{(14b)-(14a)}{(3)}$$

Table XIX

**COMPARATIVE SUMMARY OF RANKING OF PLANT CHARACTERISTICS
BY MAJOR S.I.C. GROUPS
ALL MANUFACTURING INDUSTRIAL PLANTS**

City of San Diego - January 1959

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Major SIC Group	Type of Industry	RANK, IN ORDER OF NUMERICAL SIZE, FROM LARGE TO SMALL																		
		Number of Plants	SITE AREA CHARACTERISTICS						FLOOR AREA CHARACTERISTICS						STRUCTURAL DENSITY			DISTANCE FROM 5TH & BROADWAY		
			Total	Coefficient of Variation	Variation Index	Mean Interval	Mean	Median	Total	Coefficient of Variation	Variation Index	Mean Interval	Mean	Median	Mean Interval	Mean	Median	Mean Interval	Mean	Median
19	Ordnance Manufacturing	16*	1	-	-	-	1	-	3	-	-	-	1	-	-	17	-	-	1	-
20	Food Manufacturing	1	3	5	7	10	7	2	2	5	10	7	4	2	14	8	7	15	15	10*
21	Tobacco Products Manufacturing	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	Textile Milling	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	Clothing Manufacturing	10	15	8	8	13	17	15	14	8	7	9	13*	15	15	1	1*	13	18	15
24	Lumber Products	4*	7	3	3	7	9	8	8	7	8	11	13*	11	7	16	10	6	8	3
25	Furniture Manufacturing	11	12	13	11*	12	15	7	12	13	13	10	11	7	4	6	8	12	12*	5
26	Paper & Paper Products	14	13	14	14	8	13	4	13	10	5	3	5	3	1	5	6	2	9	6
27	Printing & Publishing	7	14	12	13	15	18	14	10	11	12	13	16	9*	12	2	1*	9	16	12
28	Chemical Manufacturing	8	10	2	2	9	12	11	7	3	3	6	9	6	6	12	4	7	6*	2
29	Petroleum Products & Fuel	16*	16	-	-	-	10	-	18	-	-	-	12	-	-	13	-	-	4	-
30	Rubber Products Manufacturing	16*	17	-	-	-	14	-	16	-	-	-	8	-	-	4	-	-	2	-
31	Leather & Leather Products	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	Stone, Clay, & Glass Products	12*	4	7	5	1	3	3	15	14	15	15	18	14	13	18	15	1	6*	8
33	Metal Production, Mills, Foundries	9	8	10	9	3	5	6	5	6	4	2	3	5	5	11	12	5	14	13
34	Fabricated Metal Products	3	11	11	11*	11	16	12*	9	9	11	12	15	9*	10	7	5	10	11	9
35	Machinery Mfg. (except Electrical)	12*	9	6	6	4	4	5	11	12	9	5	7	4	2	15	4	3	5	4
36	Electrical Machinery, Electronics	4*	5	9	10	6	6	9*	6	4	6	8	10	12*	8	14	9	8	3	1
37	Transportation Equipment Mfg.	4*	2	4	4	2	2	1	1	2	2	1	2	1	9	9	13	11	12*	10*
38	Professional, Scientific Equipment	15	18	15	15	14	8	12*	17	15	14	14	17	8	3	3	3	4	17	14
39	Miscellaneous Manufacturing	2	6	1	1	5	11	9*	4	1	1	4	6	12*	11	10	11	14	10	7

Explanatory Notes: *Indicates that two or more SIC Groups tie for the same ranking.

There are 3 SIC Groups which cannot be assigned ranks in most cases, as each is represented by only a single plant. This is why there are only 15 ranking positions shown in most vertical columns, as opposed to 18 ranks in the remainder.

There are also 3 SIC Groups with no plants existing in San Diego, which are not ranked at all.

Definitions of the characteristics ranked in this Table may be found in Section III.

Table XX

**COMPARATIVE SUMMARY OF RANKING OF CHARACTERISTICS OF MAJOR S.I.C. GROUPS
IN ORDER FROM LARGE TO SMALL
ALL MANUFACTURING INDUSTRIAL PLANTS
City of San Diego - January 1959**

POSITION, IN ORDER OF RANKING FROM LARGE TO SMALL	MAJOR S.I.C. GROUPS, RANKED IN ORDER, WITH RESPECT TO:-																		
	Number of Plants	SITE AREA CHARACTERISTICS						FLOOR AREA CHARACTERISTICS						STRUCTURAL DENSITY			DISTANCE FROM 5TH & BROADWAY		
		Total	Coefficient of Variation	Variation Index	Mean Interval	Mean	Median	Total	Coefficient of Variation	Variation Index	Mean Interval	Mean	Median	Mean Interval	Mean	Median	Mean Interval	Mean	Median
First in Ranking	20	19	39	39	32	19	37	37	39	39	37	19	37	26	23	23	32	19	36
Second in Ranking	39	37	28	28	37	37	20	20	37	37	33	37	20	35	27	27	26	30	28
Third in Ranking	34	20	24	24	33	32	32	19	28	28	26	33	26	38	38	38	35	36	24
Fourth in Ranking	24	32	37	37	35	35	26	39	36	33	39	20	35	25	30	28	38	29	35
Fifth in Ranking	36	36	20	32	39	33	35	33	20	26	35	26	33	33	26	34	33	35	25
Sixth in Ranking	37	39	35	35	36	36	33	36	33	36	28	39	28	28	25	26	24	28	26
Seventh in Ranking	27	24	32	20	24	20	25	28	24	23	20	35	25	24	34	20	28	32	39
Eighth in Ranking	28	33	23	23	26	38	24	24	23	24	36	30	38	36	20	25	36	24	32
Ninth in Ranking	33	35	36	33	28	24	36	34	34	35	23	28	27	37	37	36	27	26	34
Tenth in Ranking	23	28	33	36	20	29	39	27	26	20	25	36	34	34	39	24	34	39	20
Eleventh in Ranking	25	34	34	25	34	39	28	35	27	34	24	25	24	39	33	39	37	34	37
Twelfth in Ranking	32	25	27	34	25	28	34	25	35	27	34	29	36	27	28	33	25	25	27
Thirteenth in Ranking	35	26	25	27	23	26	38	26	25	25	27	23	39	32	29	37	23	37	33
Fourteenth in Ranking	26	27	26	26	38	30	27	23	32	38	38	24	32	20	36	35	39	33	38
Fifteenth in Ranking	38	23	38	38	27	25	23	32	38	32	32	34	23	23	35	32	20	20	23
Sixteenth in Ranking	19	29	-	-	-	34	-	30	-	-	-	27	-	-	24	-	-	27	-
Seventeenth in Ranking	29	30	-	-	-	23	-	38	-	-	-	38	-	-	19	-	-	38	-
Eighteenth in Ranking	30	38	-	-	-	27	-	29	-	-	-	32	-	-	32	-	-	23	-

Explanatory Notes:

[] Indicates that two or more SIC Groups are of equal ranking.

The 16th, 17th and 18th rankings are not assigned in some vertical columns, because the 3 S.I.C. Groups with only one plant each cannot be treated by this statistical method. Definitions of the characteristics ranked may be found in Section III.

Key to Major SIC Groups:

19 - Ordnance Manufacturing
20 - Food Manufacturing
23 - Clothing Manufacturing
24 - Lumber Products
25 - Furniture Manufacturing
26 - Paper & Paper Products

27 - Printing & Publishing
28 - Chemical Manufacturing
29 - Petroleum Products & Fuel
30 - Rubber Products Manufacturing
32 - Stone, Clay & Glass Products
33 - Metal Production, Mills, Foundries, etc.

34 - Fabricated Metal Products
35 - Machinery Manufacturing (except Electrical)
36 - Electrical Machinery Manufacturing, Electronics
37 - Transportation Equipment Manufacturing
38 - Professional, Scientific Equipment Manufacturing
39 - Miscellaneous Manufacturing

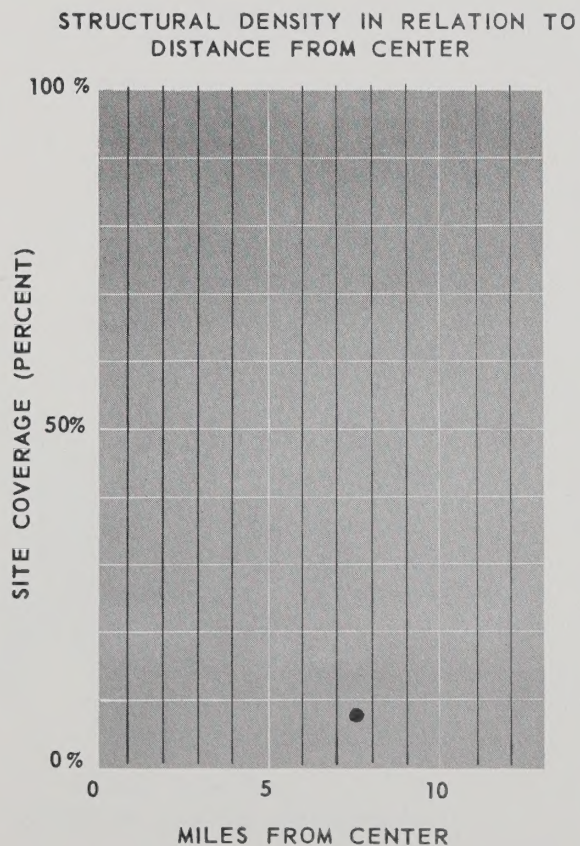
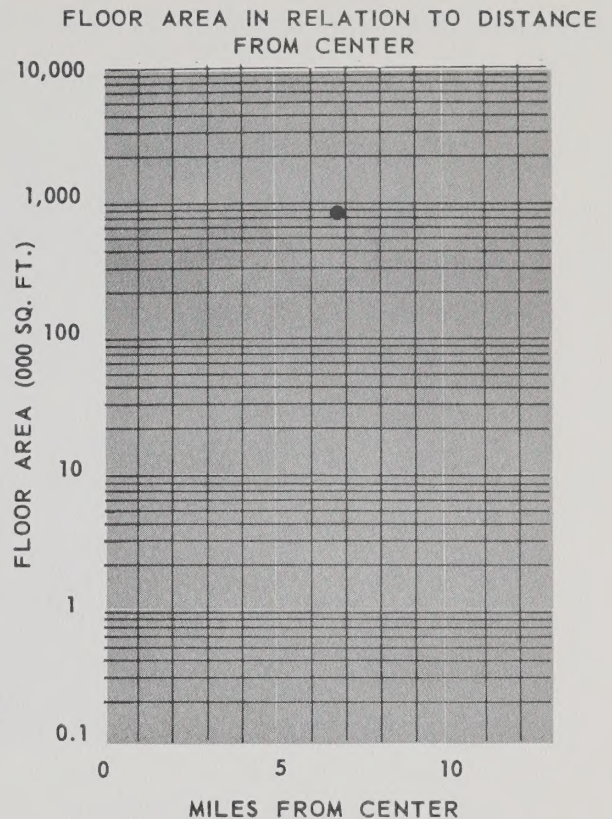
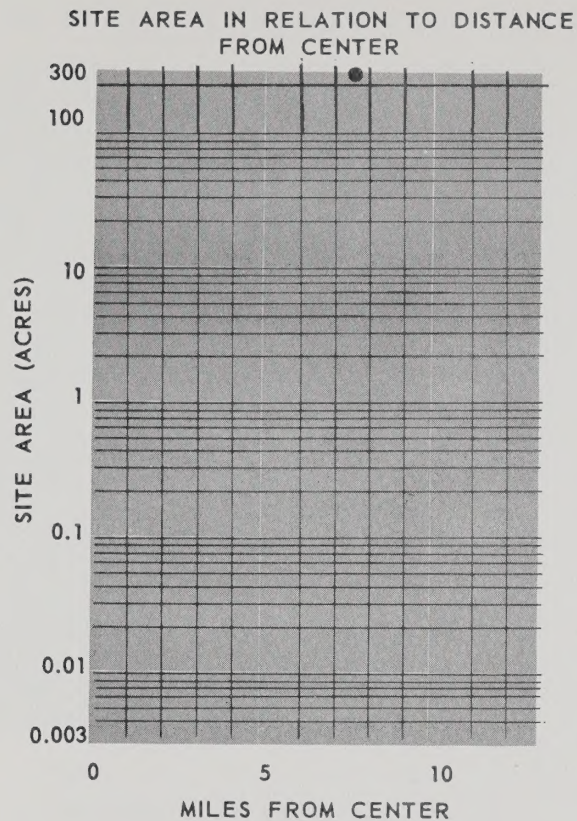
Diagrams

PHYSICAL CHARACTERISTICS OF MANUFACTURING INDUSTRIAL PLANTS BY MAJOR S.I.C. GROUPS IN RELATION TO 5TH AND BROADWAY

Figure 3. Characteristics of S.I.C. Group 19 - Ordnance Manufacturing

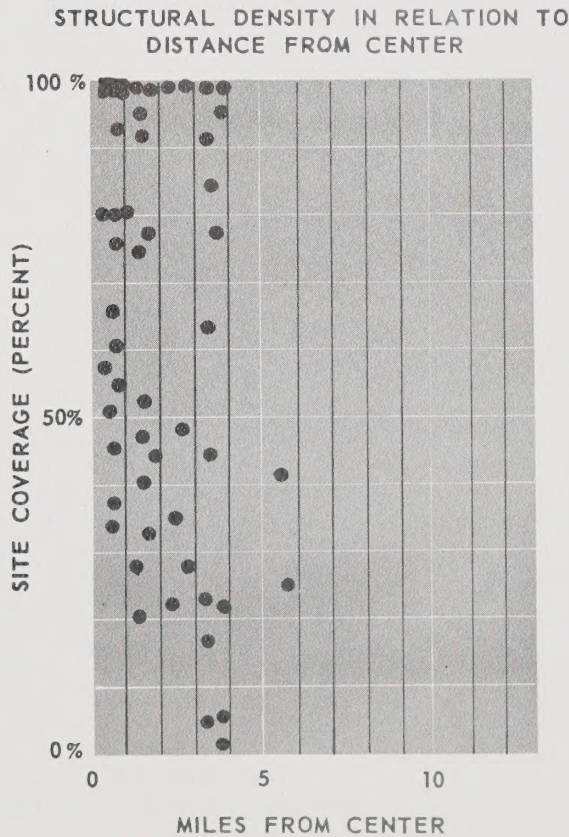
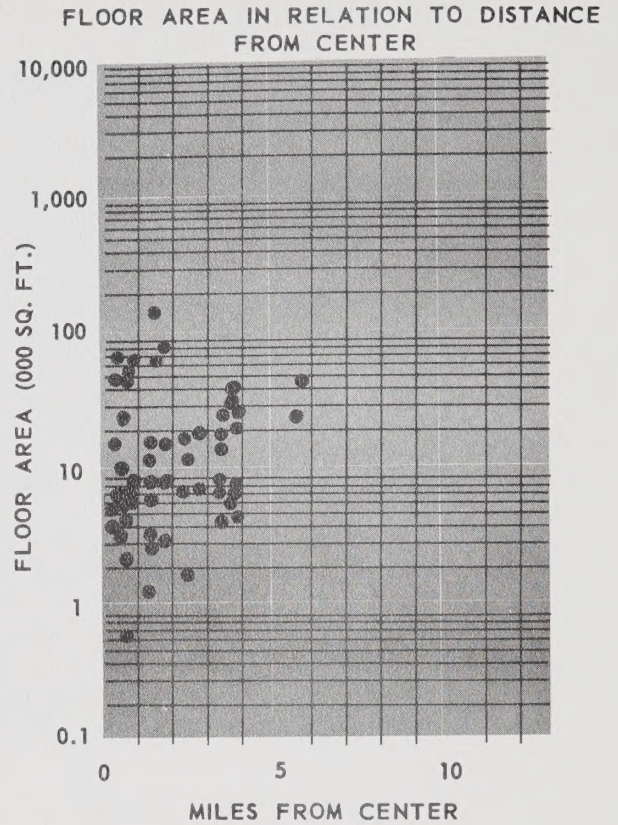
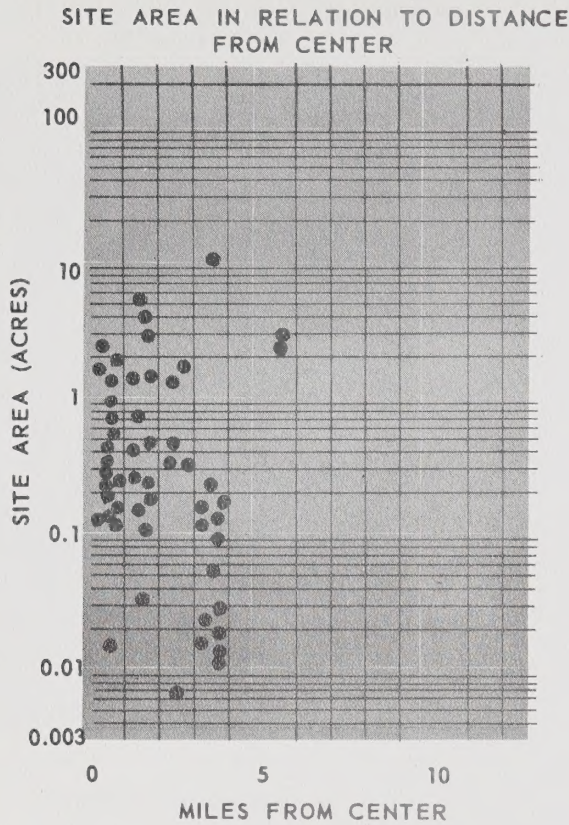
4. Characteristics of S.I.C. Group 20 - Food Manufacturing
5. Characteristics of S.I.C. Group 23 - Clothing Manufacturing
6. Characteristics of S.I.C. Group 24 - Lumber Products
7. Characteristics of S.I.C. Group 25 - Furniture Manufacturing
8. Characteristics of S.I.C. Group 26 - Paper and Paper Products
9. Characteristics of S.I.C. Group 27 - Printing and Publishing
10. Characteristics of S.I.C. Group 28 - Chemical Manufacturing
11. Characteristics of S.I.C. Group 29 - Petroleum Products and Fuel
12. Characteristics of S.I.C. Group 30 - Rubber Products Manufacturing
13. Characteristics of S.I.C. Group 32 - Stone, Clay and Glass Products
14. Characteristics of S.I.C. Group 33 - Metal Production, Mills, Foundries
15. Characteristics of S.I.C. Group 34 - Fabricated Metal Products
16. Characteristics of S.I.C. Group 35 - Machinery Manufacturing
(excluding Electrical)
17. Characteristics of S.I.C. Group 36 - Electrical Machinery Manufacturing,
Electronics
18. Characteristics of S.I.C. Group 37 - Transportation Equipment Manufacturing
19. Characteristics of S.I.C. Group 38 - Professional, Scientific Equipment
Manufacturing
20. Characteristics of S.I.C. Group 39 - Miscellaneous Manufacturing

**FIGURE 3 CHARACTERISTICS OF
S.I.C. GROUP 19 ORDNANCE MANUFACTURING**



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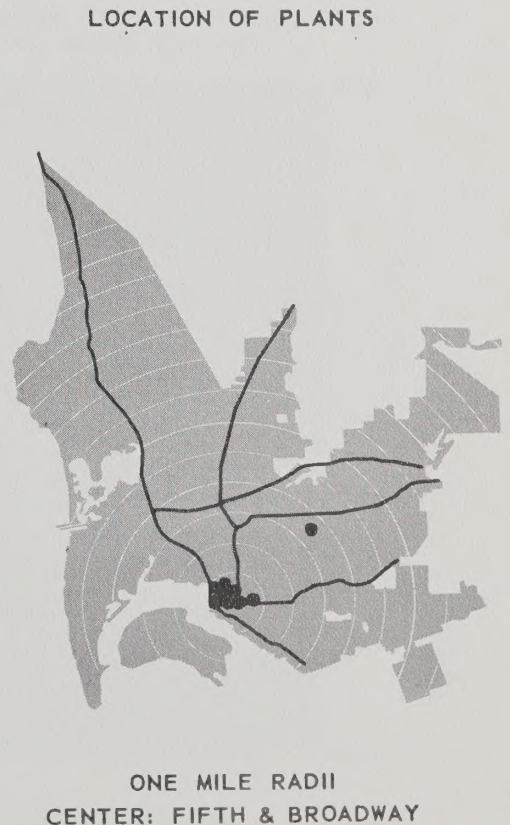
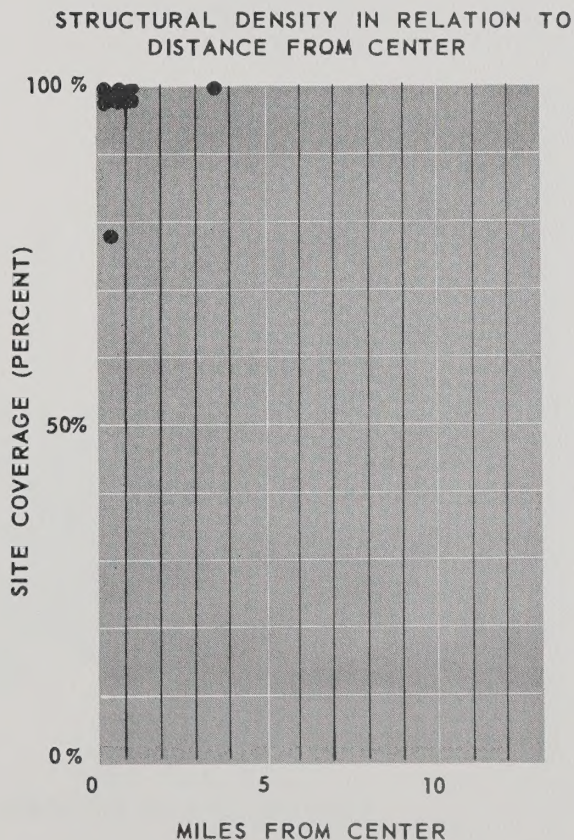
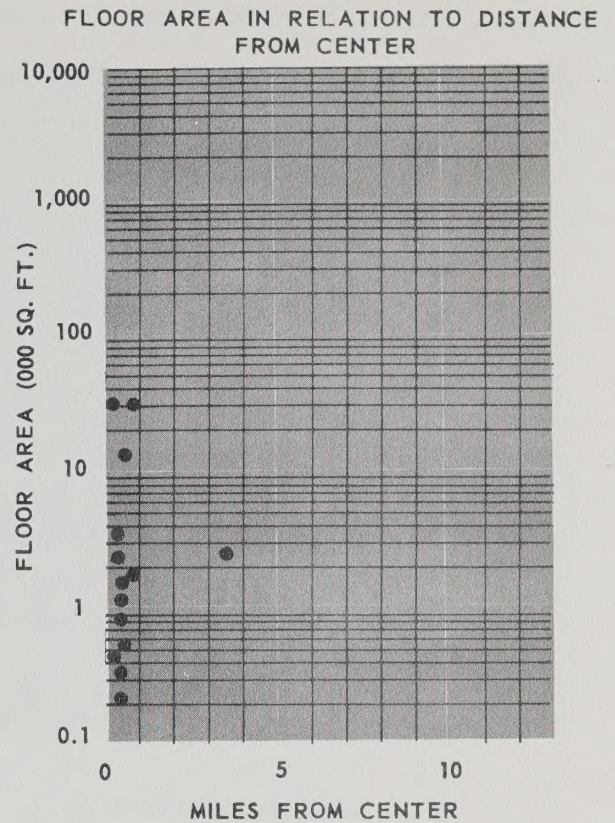
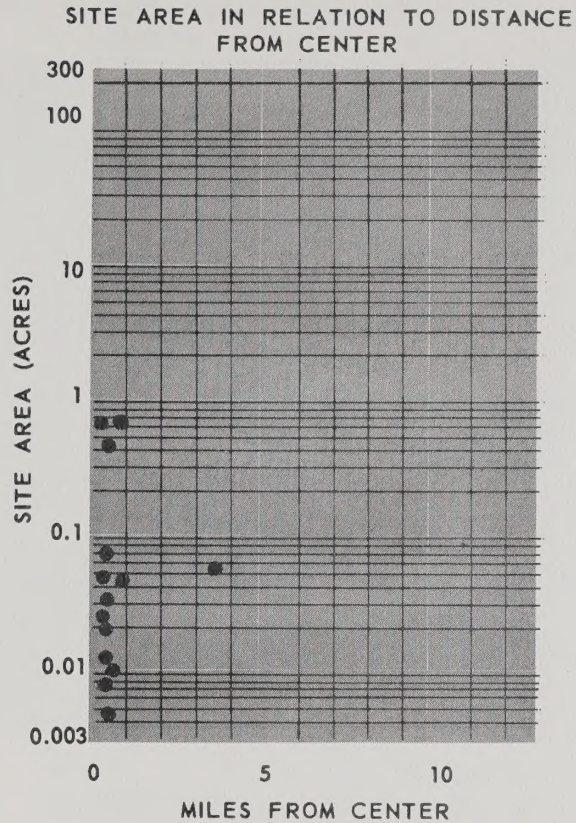
FIGURE 4 CHARACTERISTICS OF S.I.C. GROUP 20 FOOD MANUFACTURING



CITY OF SAN DIEGO - JANUARY 1959

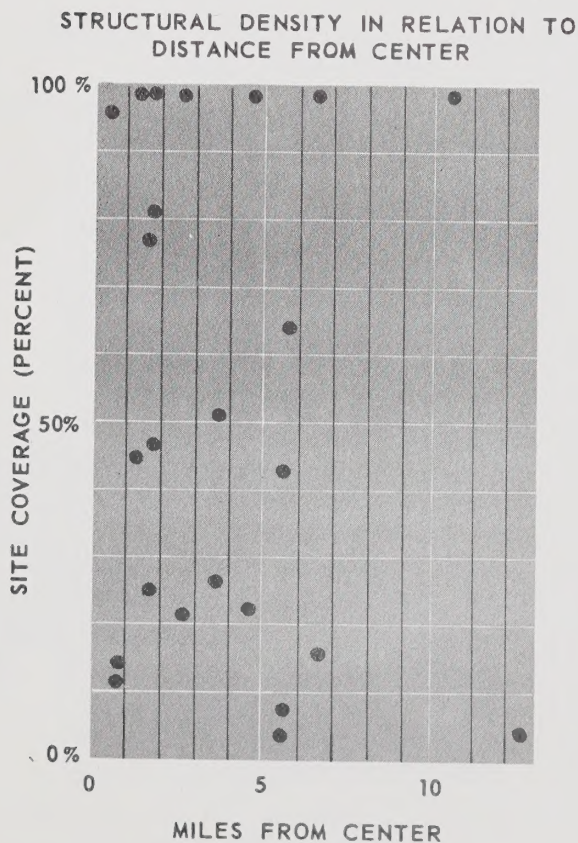
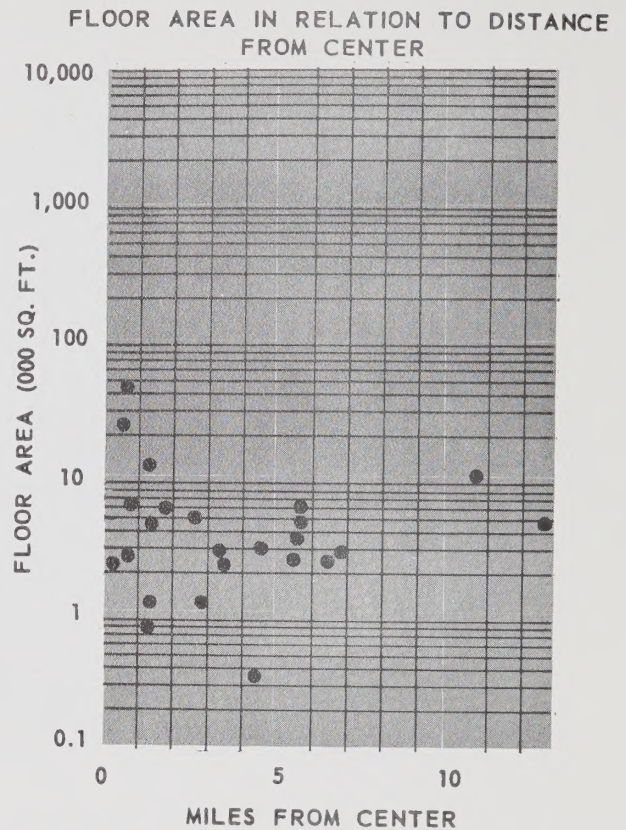
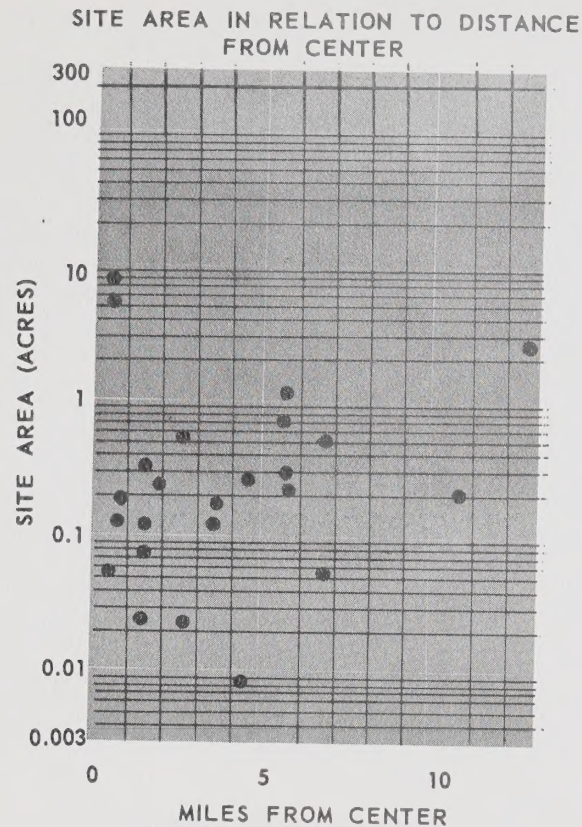
FIGURE 5 CHARACTERISTICS OF

S.I.C. GROUP 23 CLOTHING MANUFACTURING



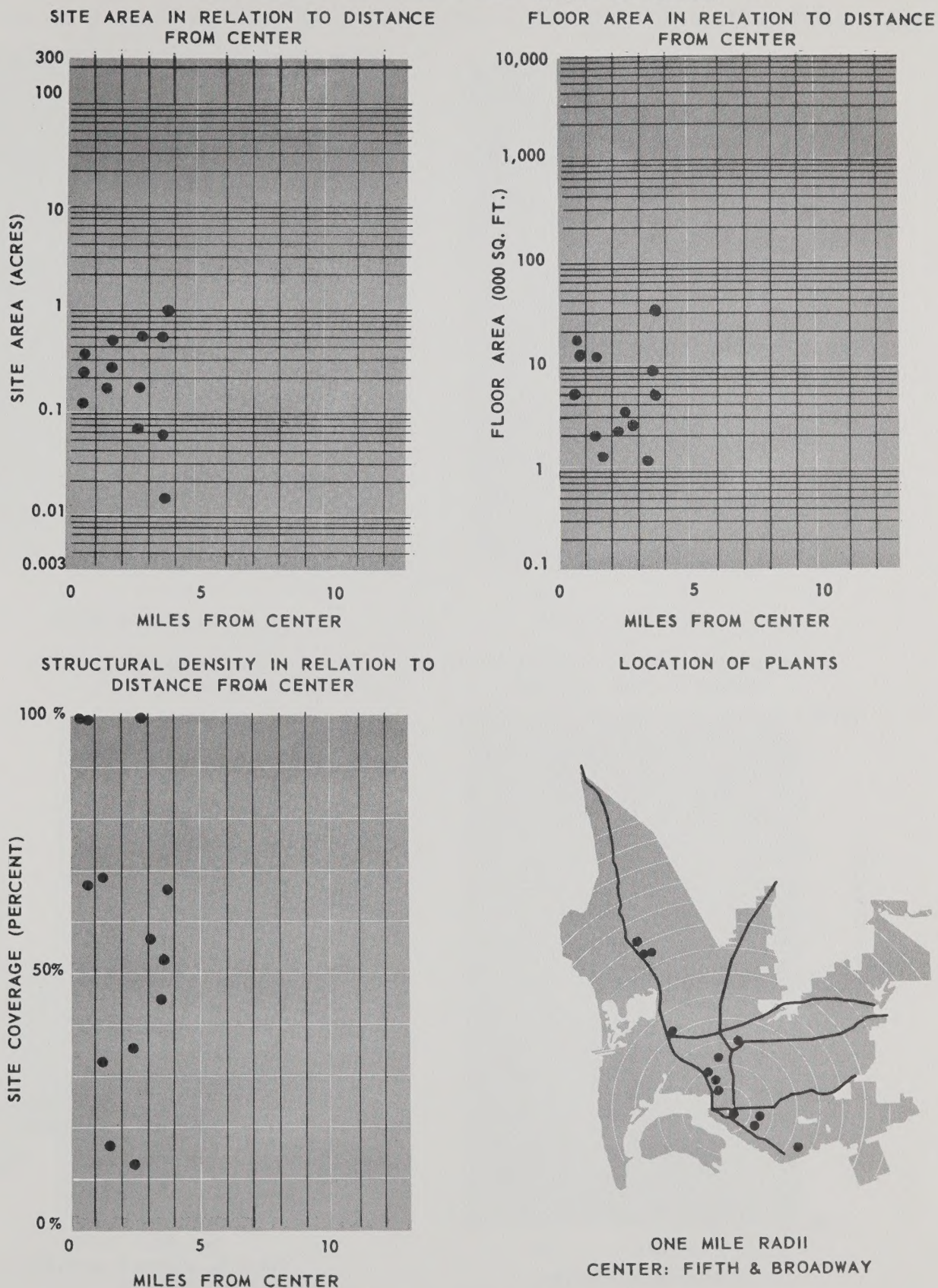
CITY OF SAN DIEGO - JANUARY 1959

**FIGURE 6 CHARACTERISTICS OF
S.I.C. GROUP 24 LUMBER PRODUCTS**



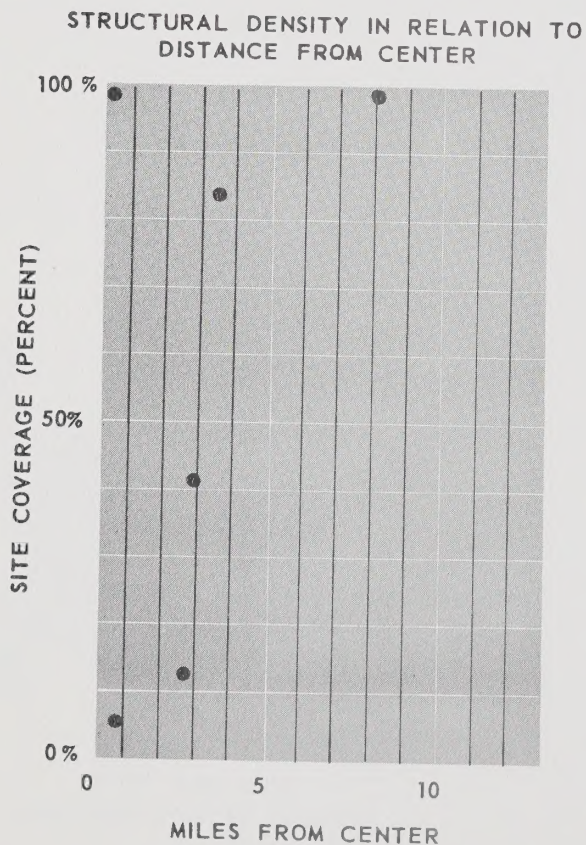
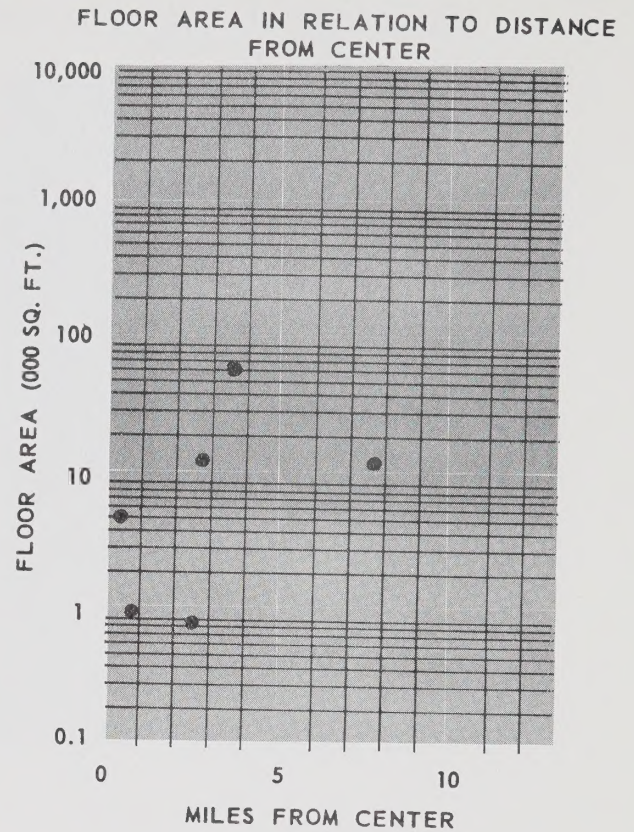
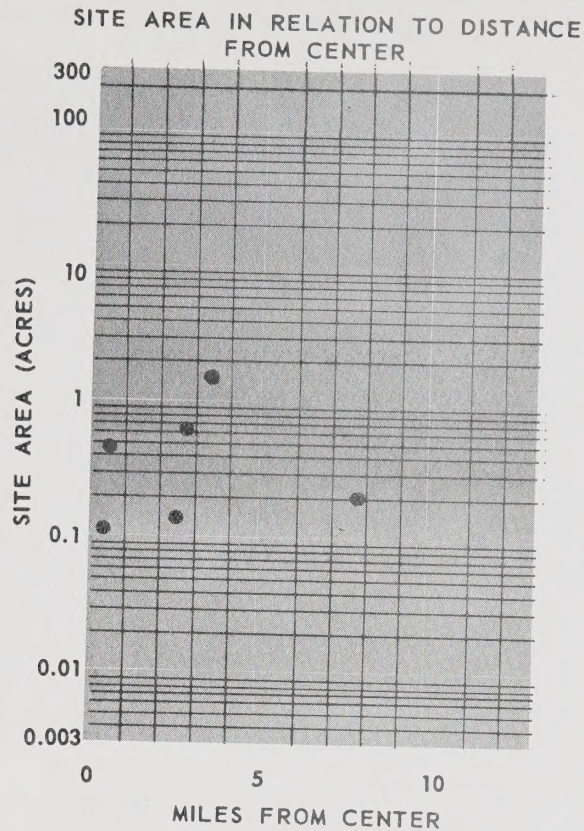
CITY OF SAN DIEGO - JANUARY 1959

FIGURE 7 CHARACTERISTICS OF S.I.C. GROUP 25 FURNITURE MANUFACTURING



CITY OF SAN DIEGO - JANUARY 1959

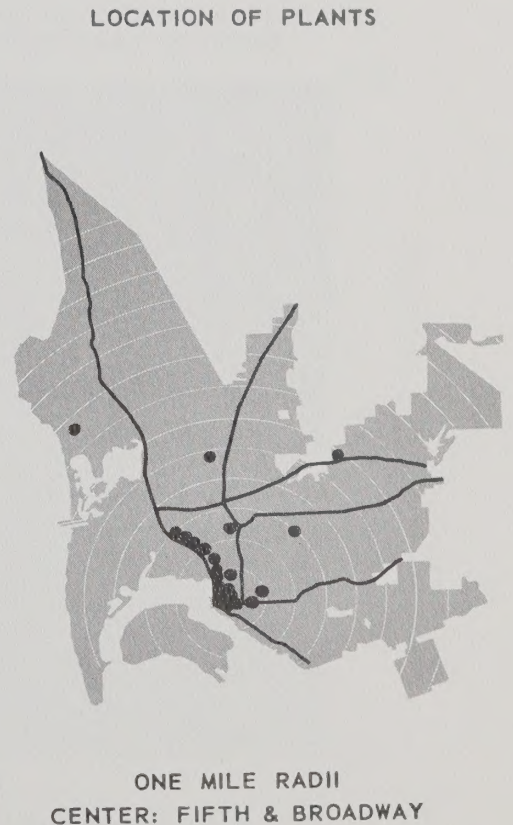
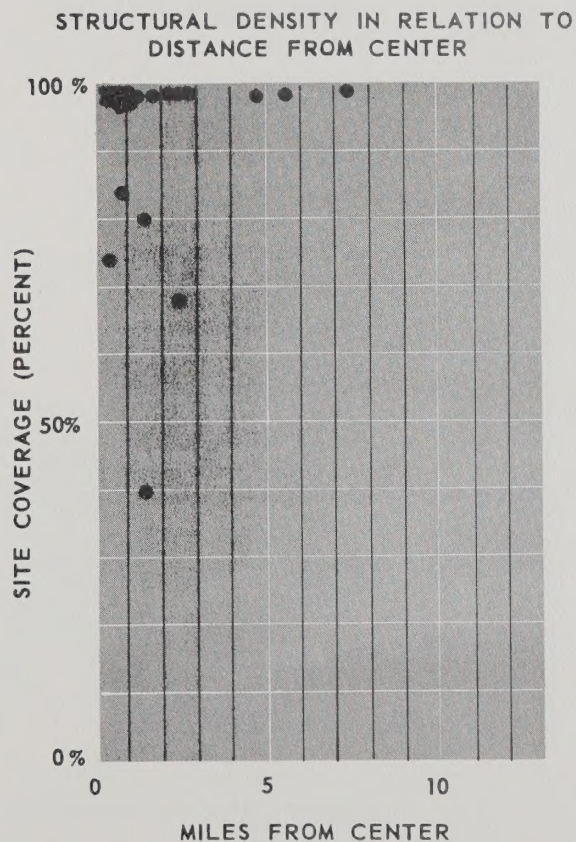
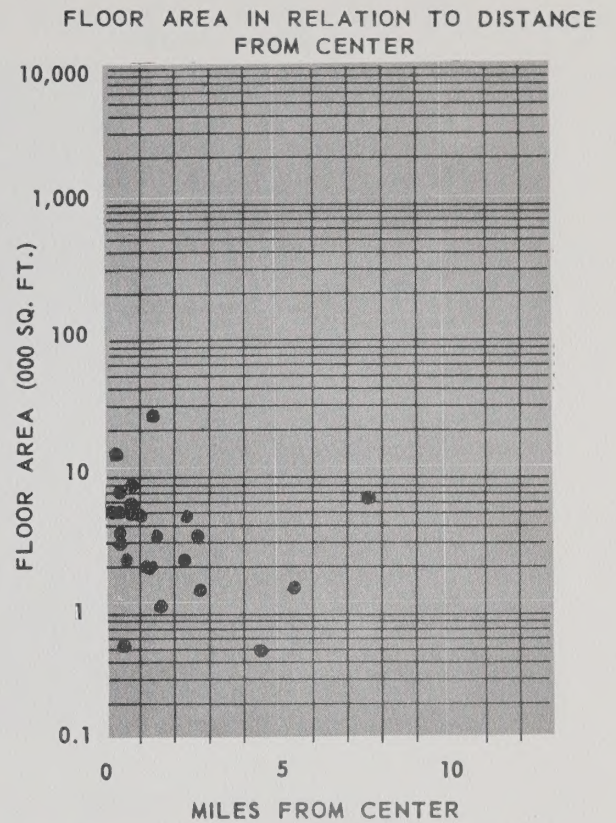
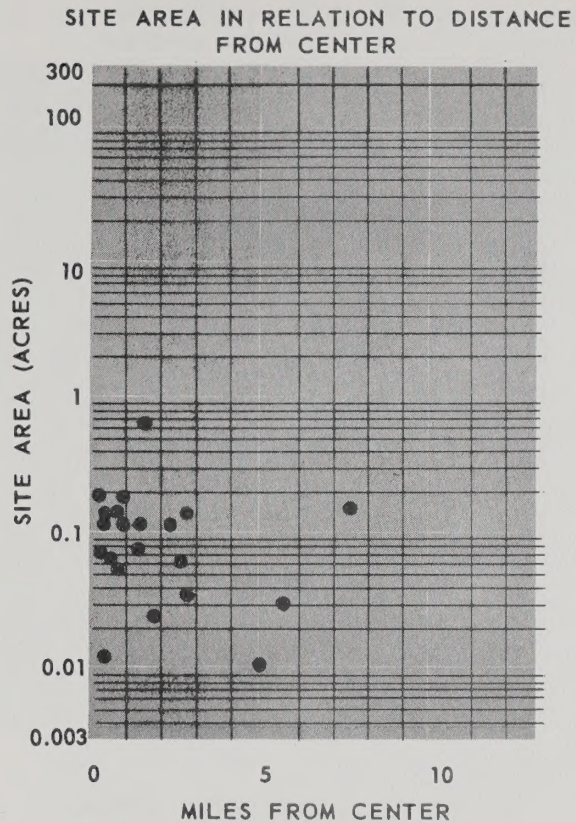
**FIGURE 8 CHARACTERISTICS OF
S.I.C. GROUP 26 PAPER AND PAPER PRODUCTS**



ONE MILE RADII
CENTER: FIFTH & BROADWAY

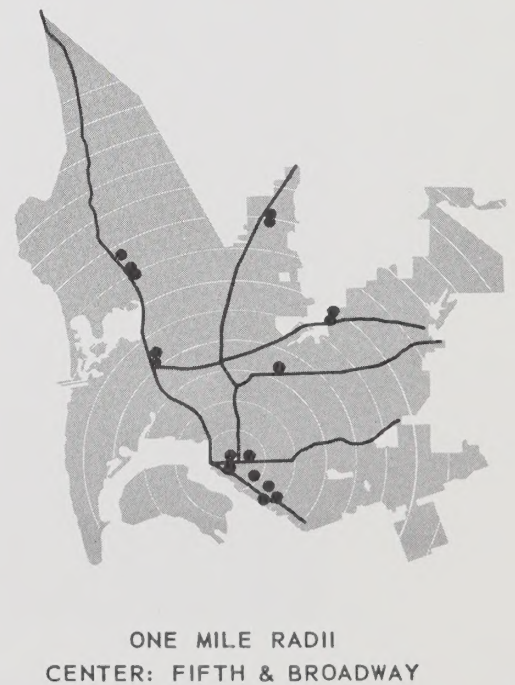
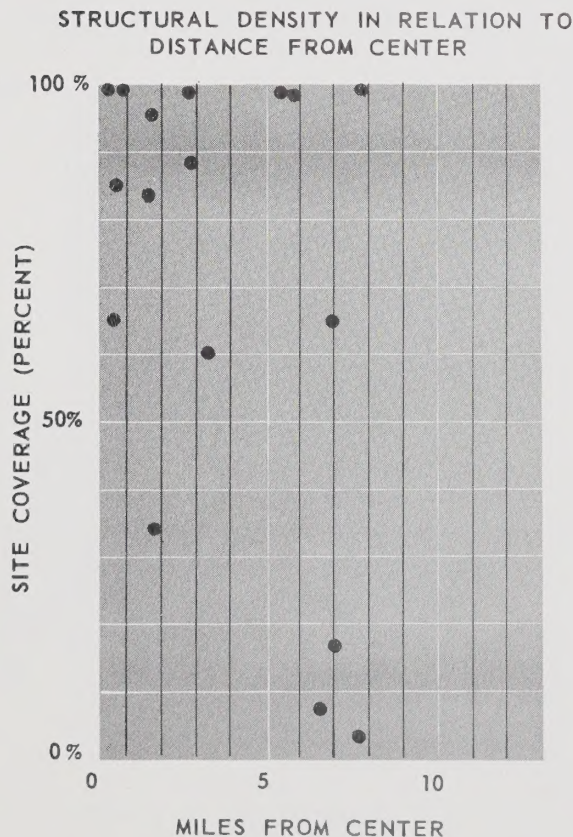
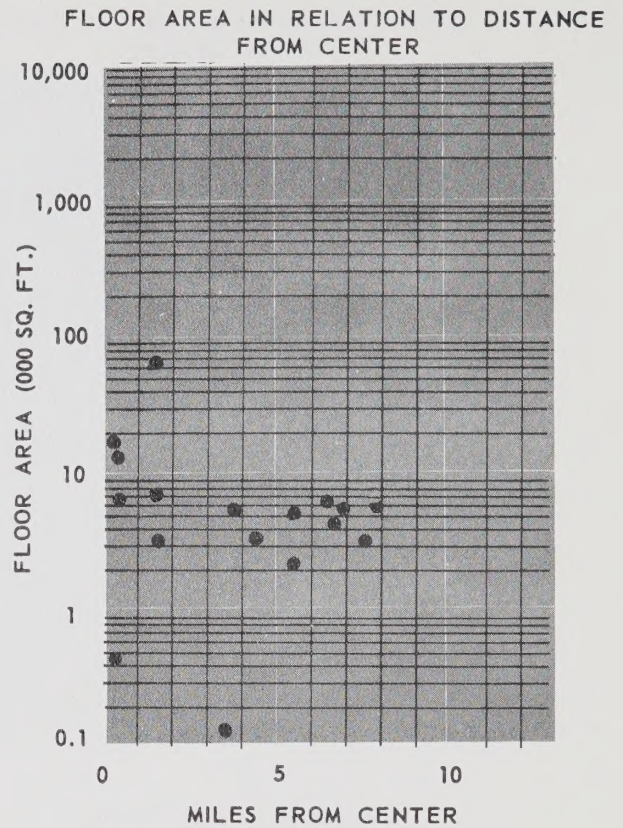
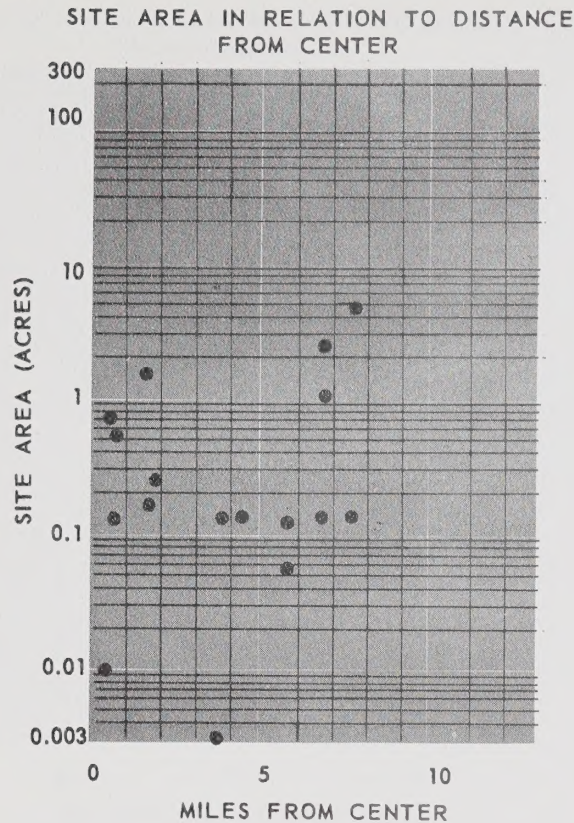
CITY OF SAN DIEGO - JANUARY 1959

FIGURE 9 CHARACTERISTICS OF S.I.C. GROUP 27 PRINTING AND PUBLISHING



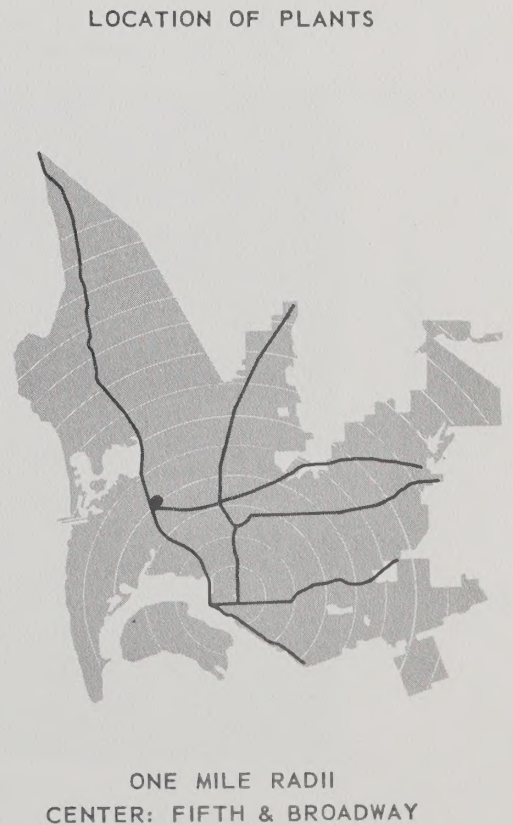
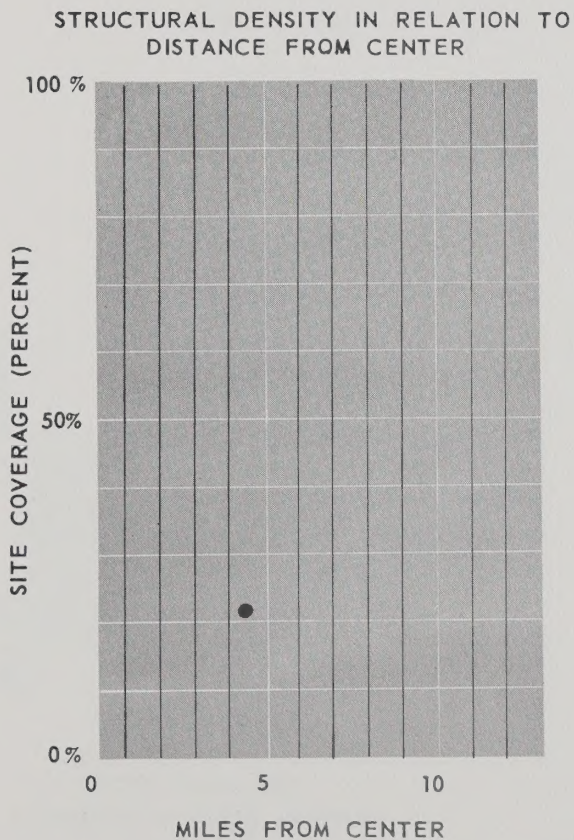
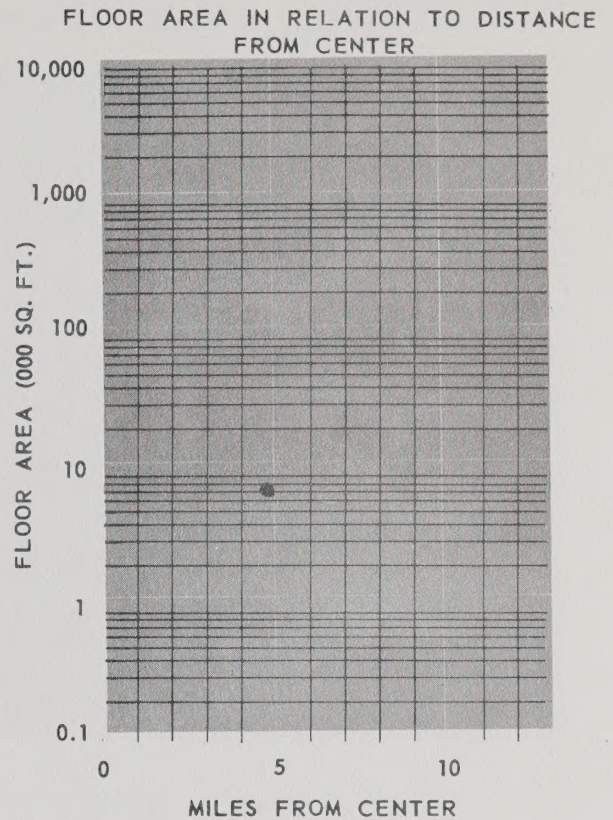
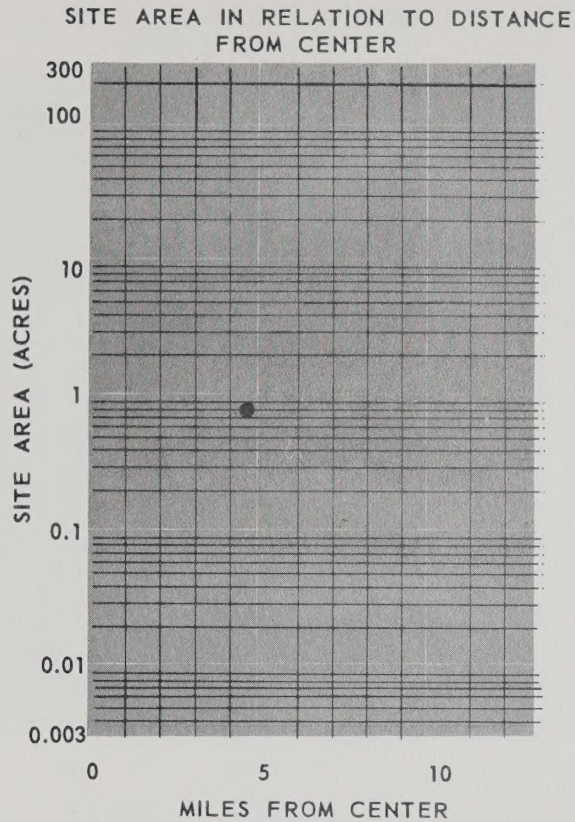
CITY OF SAN DIEGO - JANUARY 1959

FIGURE 10 CHARACTERISTICS OF S.I.C. GROUP 28 CHEMICAL MANUFACTURING



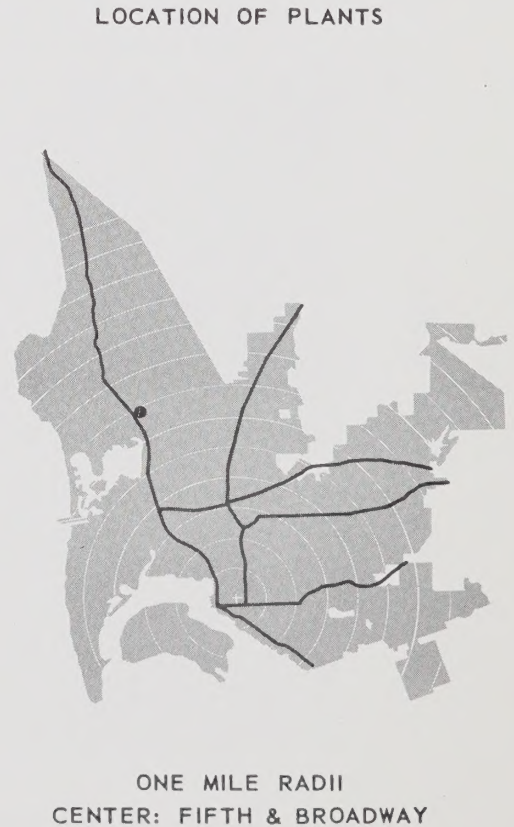
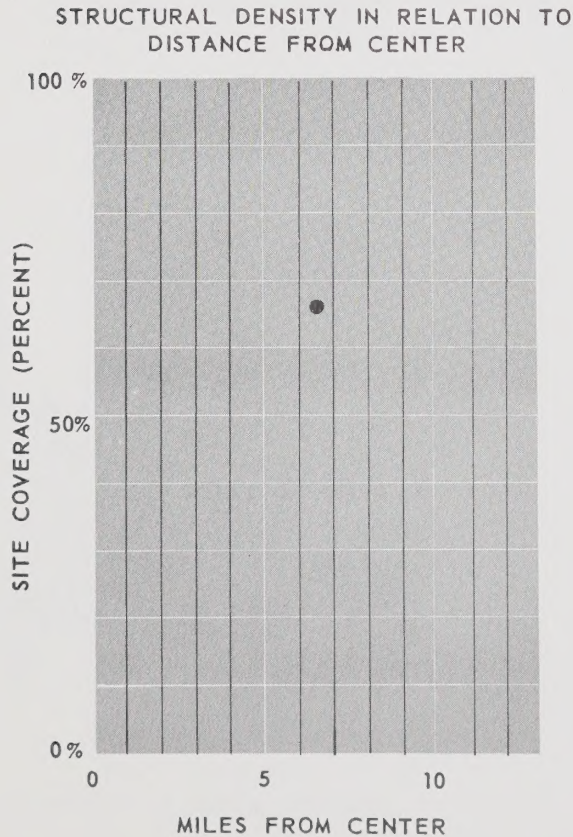
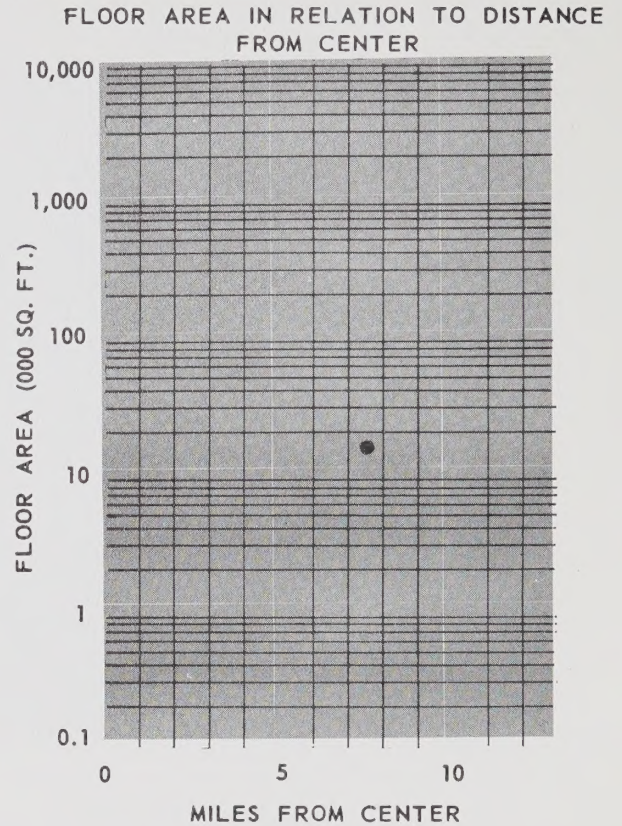
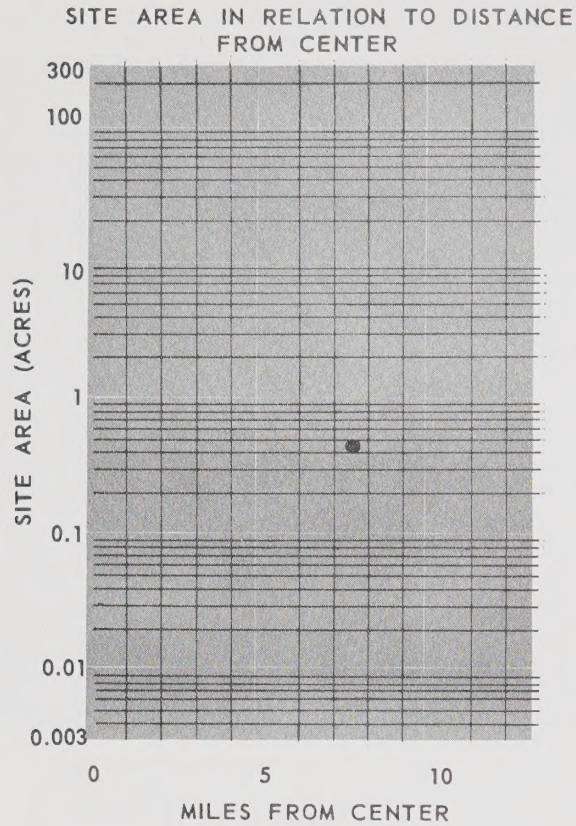
CITY OF SAN DIEGO - JANUARY 1959

FIGURE 11 CHARACTERISTICS OF S.I.C. GROUP 29 PETROLEUM PRODUCTS AND FUEL



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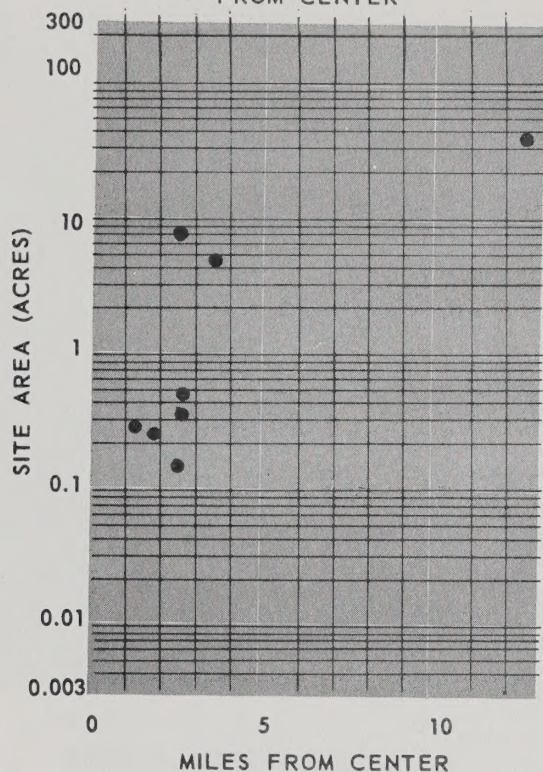
**FIGURE 12 CHARACTERISTICS OF
S.I.C. GROUP 30 RUBBER PRODUCTS MANUFACTURING**



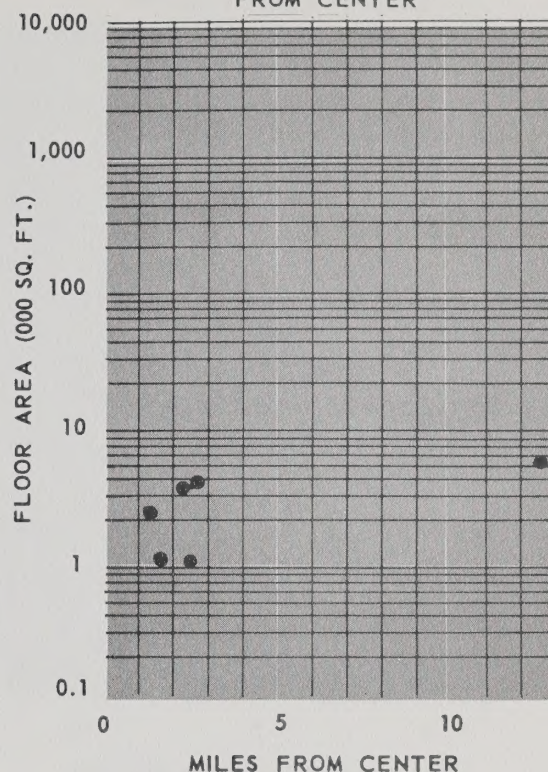
CITY OF SAN DIEGO - JANUARY 1959

**FIGURE 13 CHARACTERISTICS OF
S.I.C. GROUP 32 STONE, CLAY AND GLASS PRODUCTS**

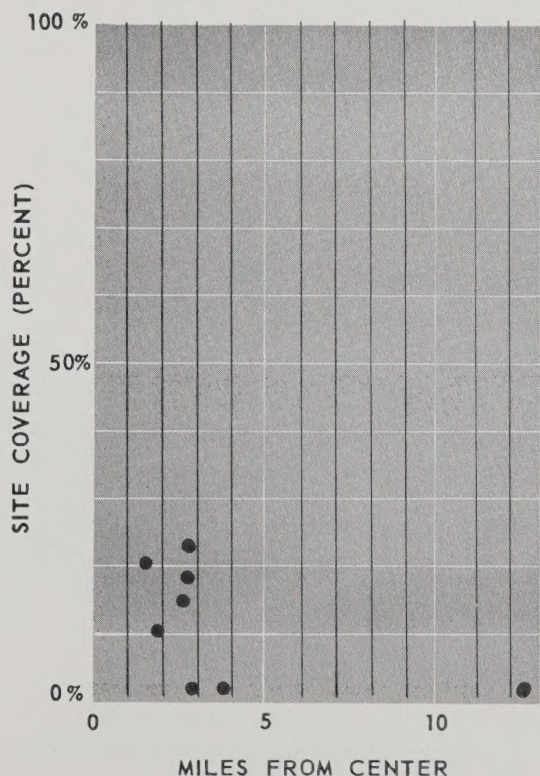
**SITE AREA IN RELATION TO DISTANCE
FROM CENTER**



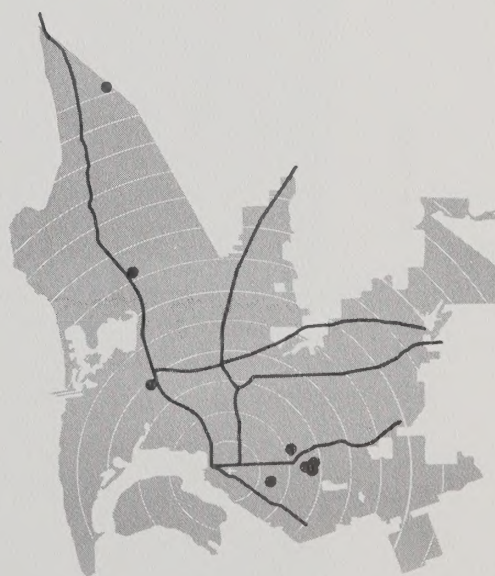
**FLOOR AREA IN RELATION TO DISTANCE
FROM CENTER**



**STRUCTURAL DENSITY IN RELATION TO
DISTANCE FROM CENTER**



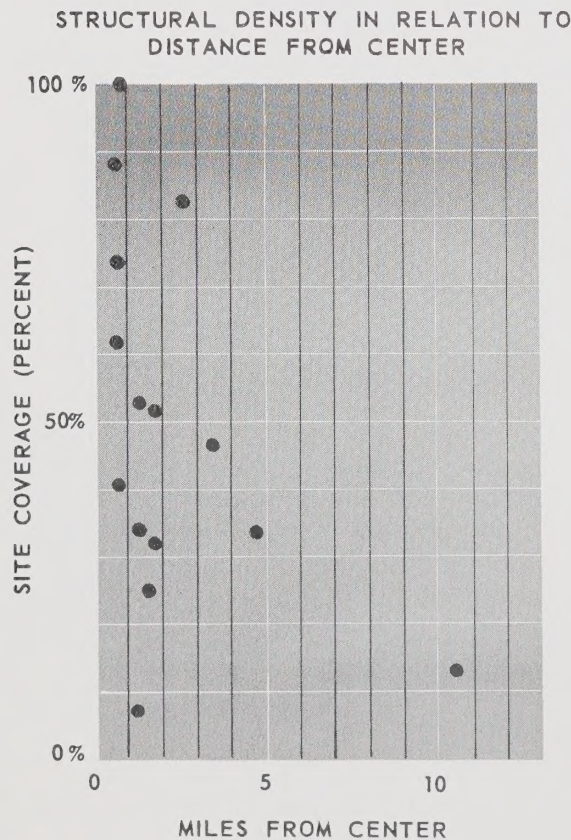
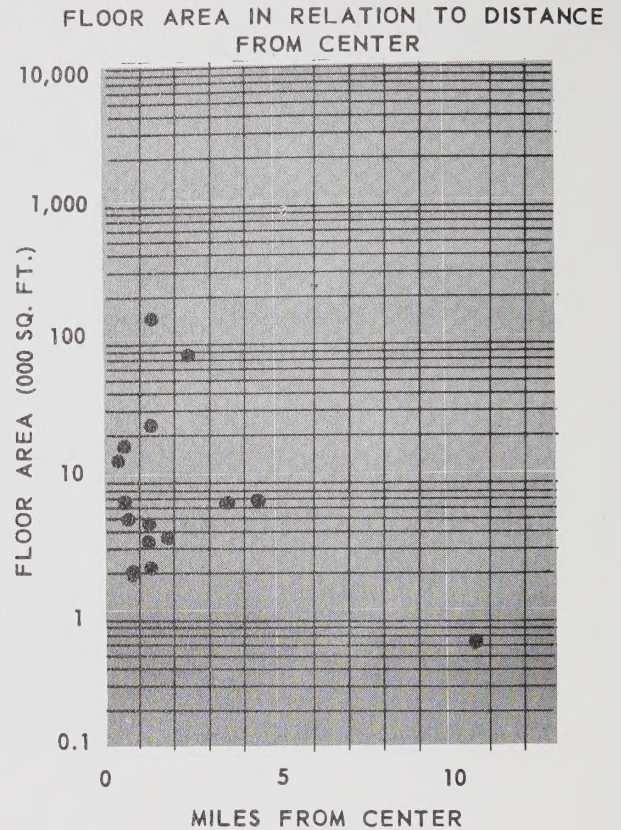
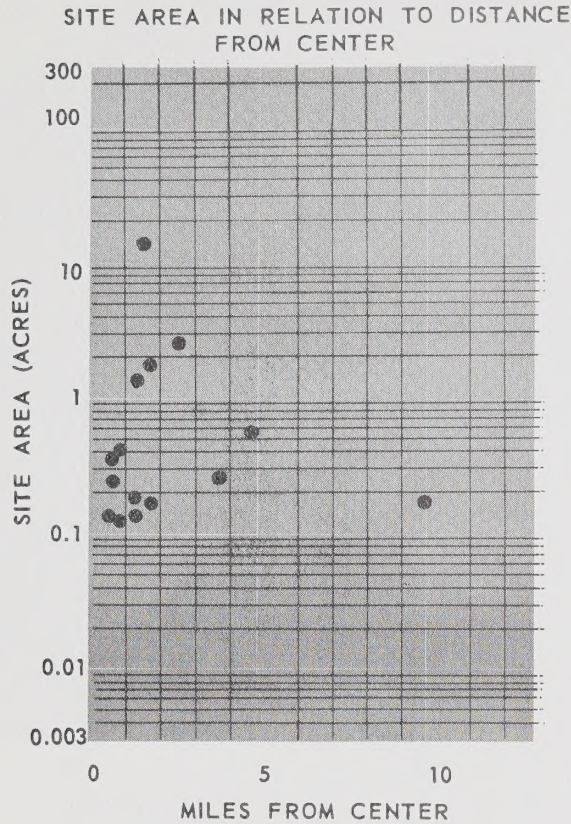
LOCATION OF PLANTS



**ONE MILE RADII
CENTER: FIFTH & BROADWAY**

CITY OF SAN DIEGO - JANUARY 1959

**FIGURE 14 CHARACTERISTICS OF
S.I.C. GROUP 33 METAL PRODUCTION**



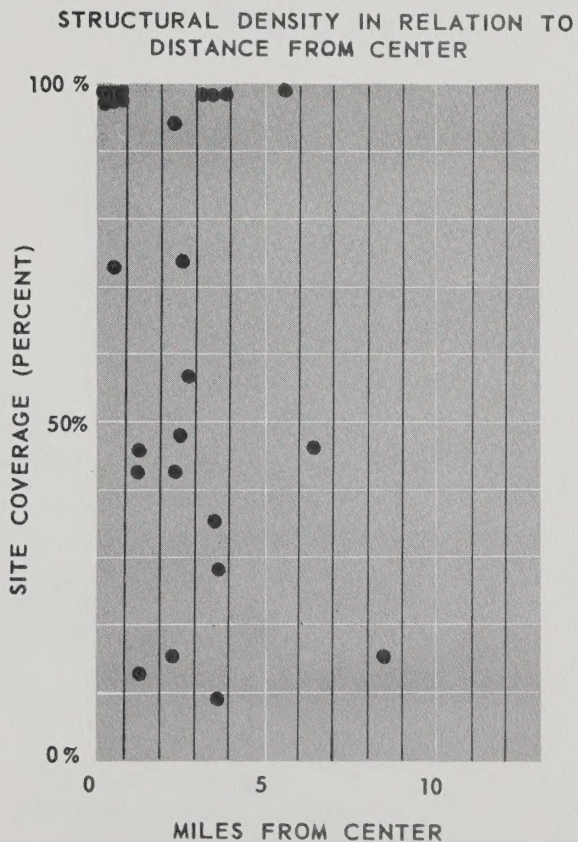
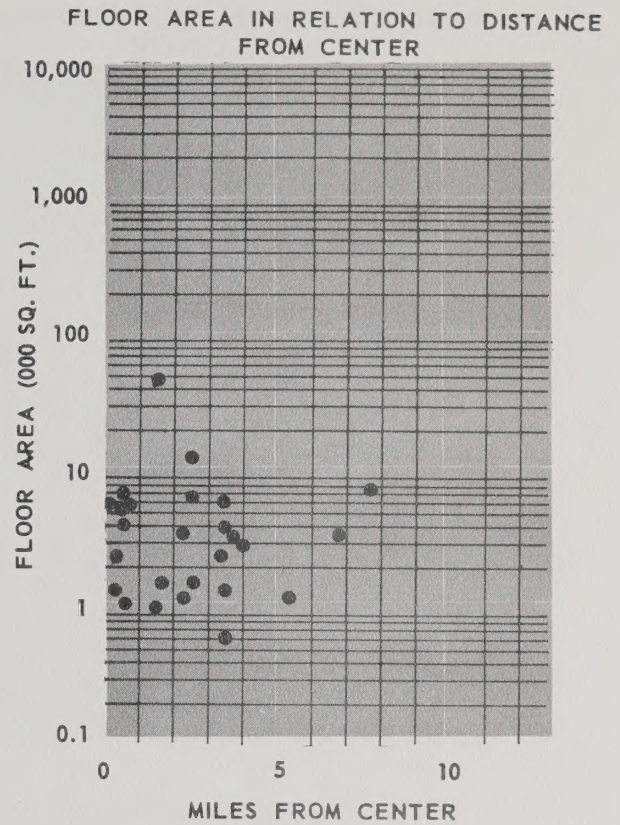
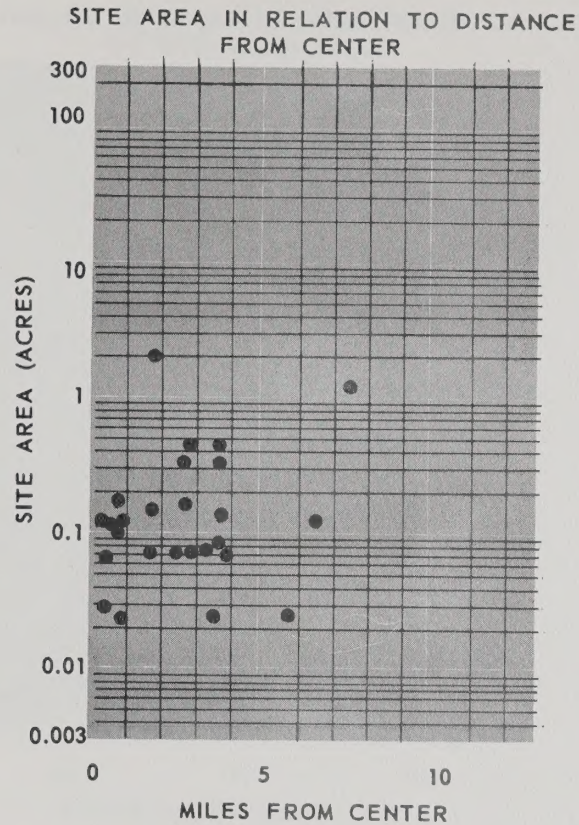
LOCATION OF PLANTS



**ONE MILE RADII
CENTER: FIFTH & BROADWAY**

CITY OF SAN DIEGO - JANUARY 1959

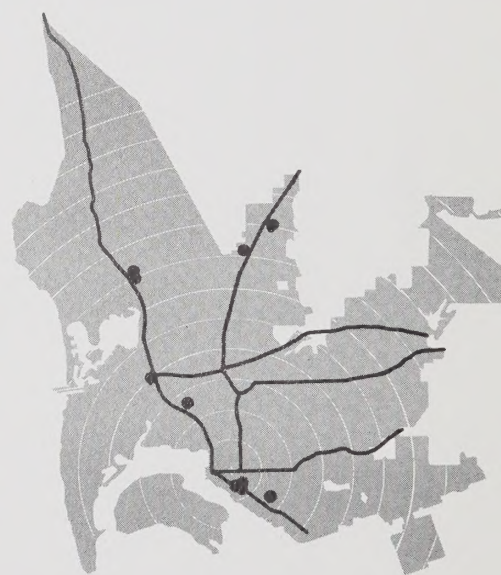
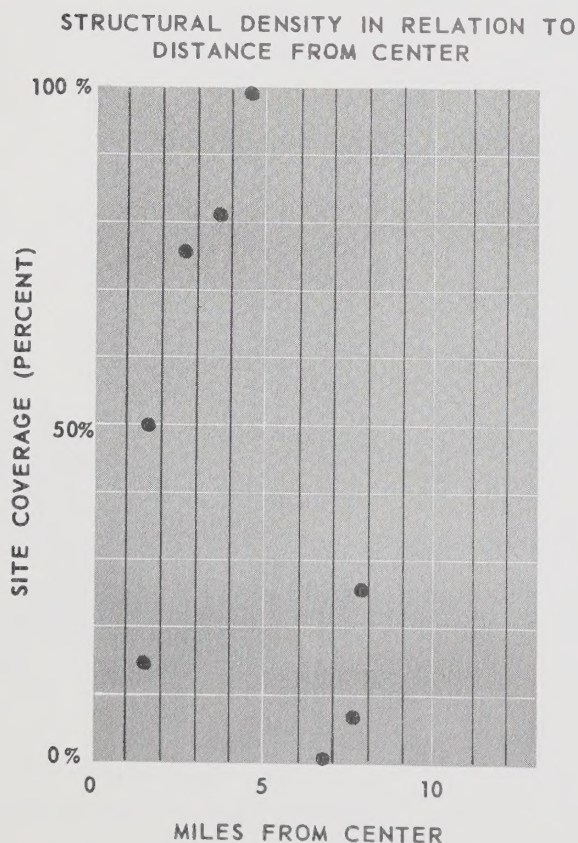
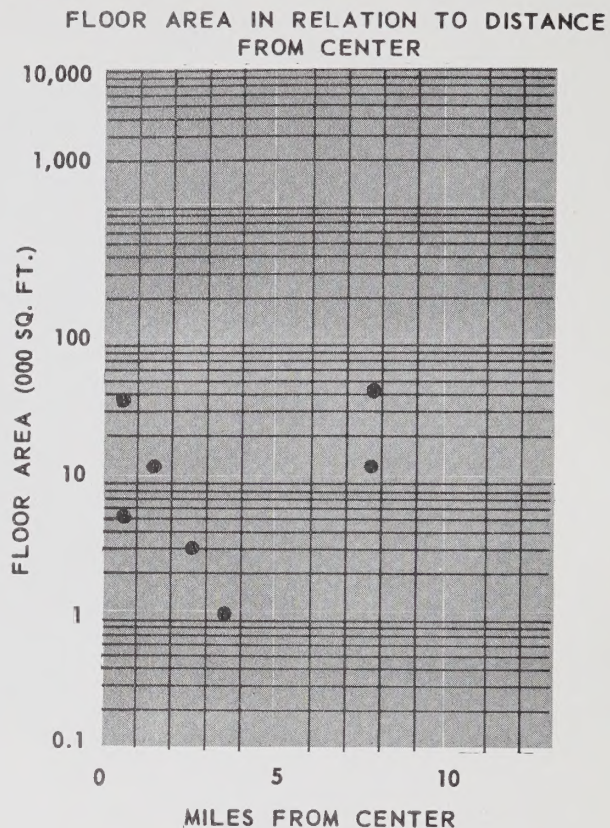
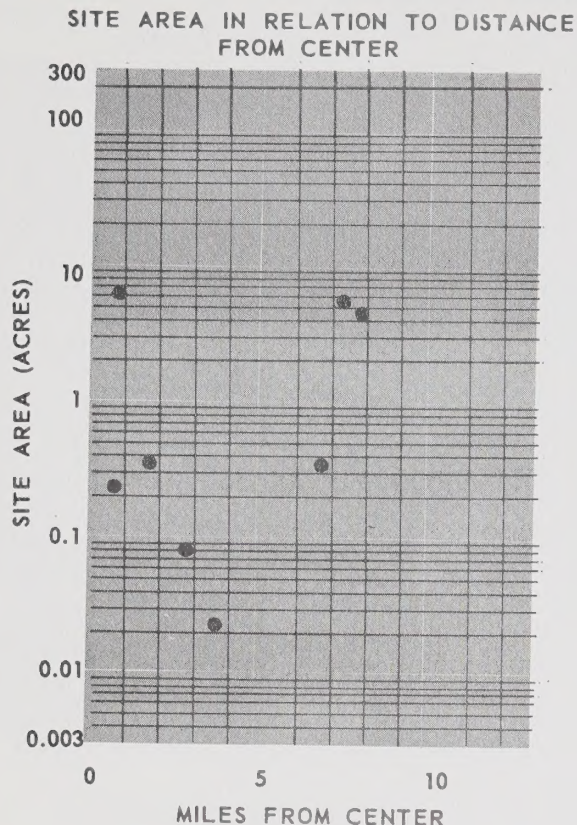
**FIGURE 15 CHARACTERISTICS OF
S.I.C. GROUP 34 FABRICATED METAL PRODUCTS**



**ONE MILE RADII
CENTER: FIFTH & BROADWAY**

CITY OF SAN DIEGO - JANUARY 1959

FIGURE 16 CHARACTERISTICS OF S.I.C. GROUP 35 MACHINERY MANUFACTURING (EXCEPT ELECTRICAL)

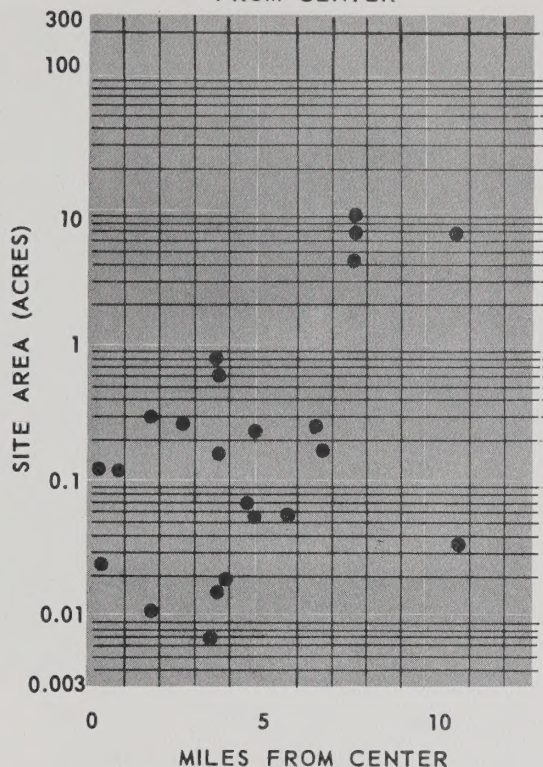


ONE MILE RADII
CENTER: FIFTH & BROADWAY

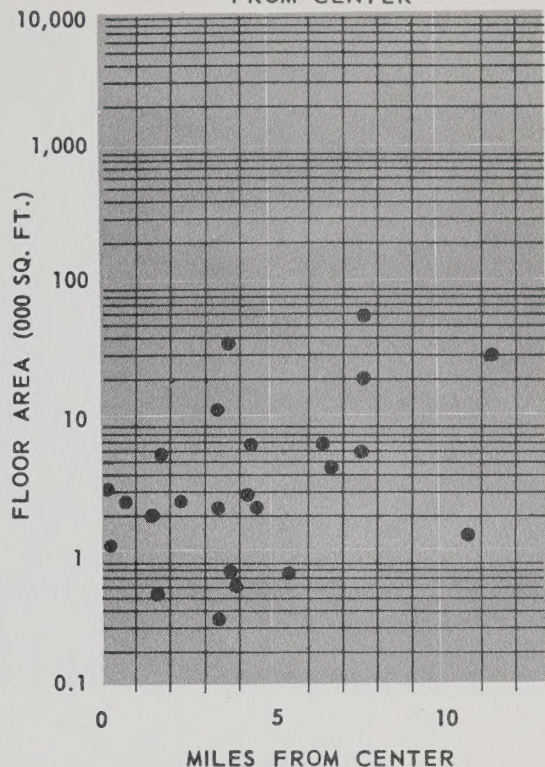
CITY OF SAN DIEGO - JANUARY 1959

FIGURE 17 CHARACTERISTICS OF S.I.C. GROUP 36 ELECTRICAL MACHINERY MANUFACTURING AND ELECTRONICS

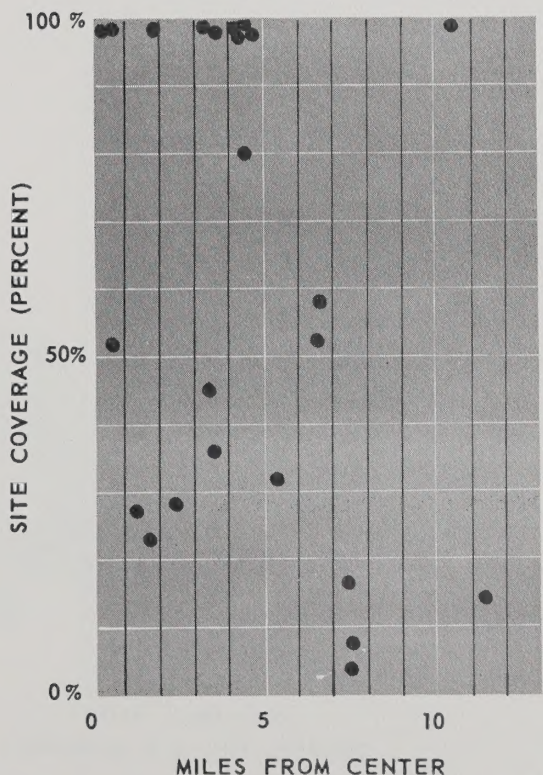
**SITE AREA IN RELATION TO DISTANCE
FROM CENTER**



**FLOOR AREA IN RELATION TO DISTANCE
FROM CENTER**



**STRUCTURAL DENSITY IN RELATION TO
DISTANCE FROM CENTER**



LOCATION OF PLANTS

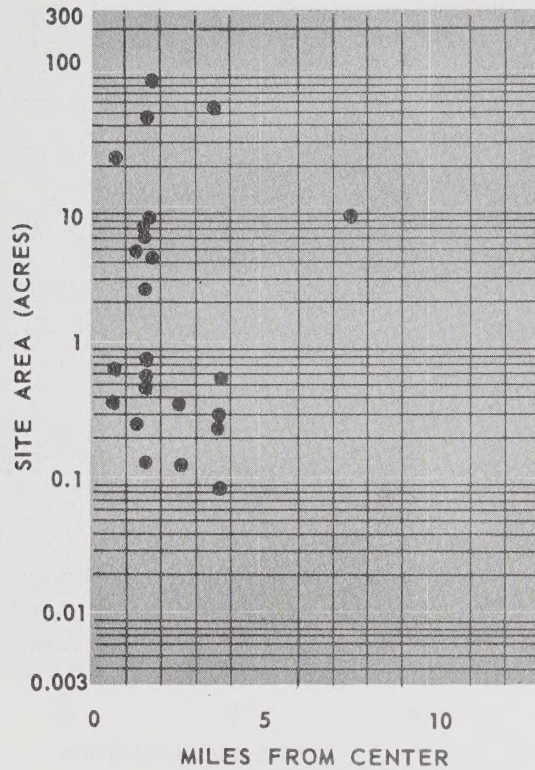


**ONE MILE RADII
CENTER: FIFTH & BROADWAY**

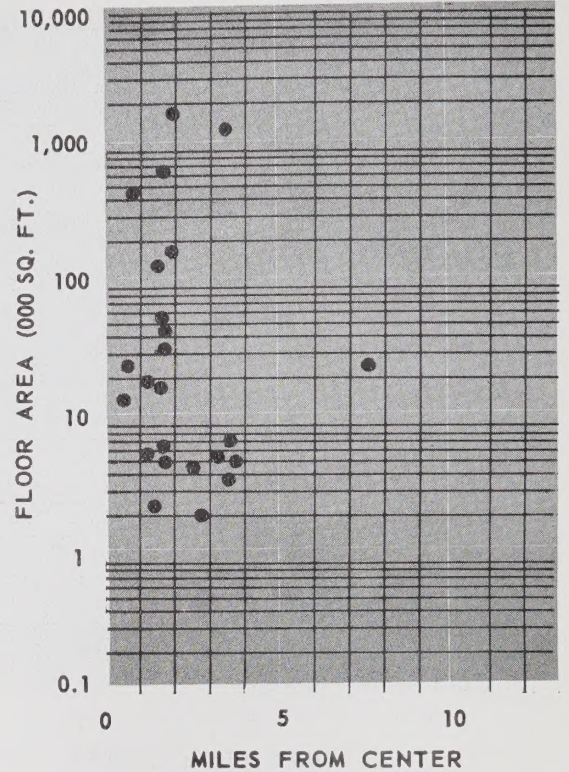
CITY OF SAN DIEGO - JANUARY 1959

**FIGURE 18 CHARACTERISTICS OF
S.I.C. GROUP 37 TRANSPORTATION EQUIPMENT MANUFACTURING**

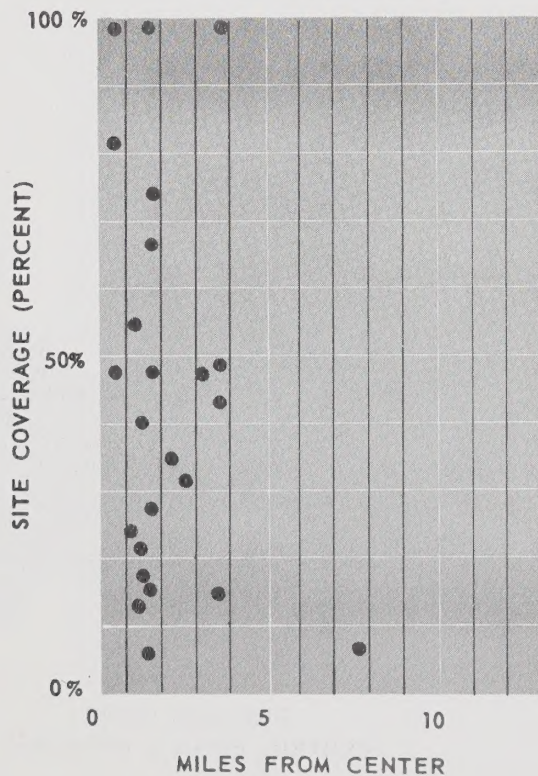
**SITE AREA IN RELATION TO DISTANCE
FROM CENTER**



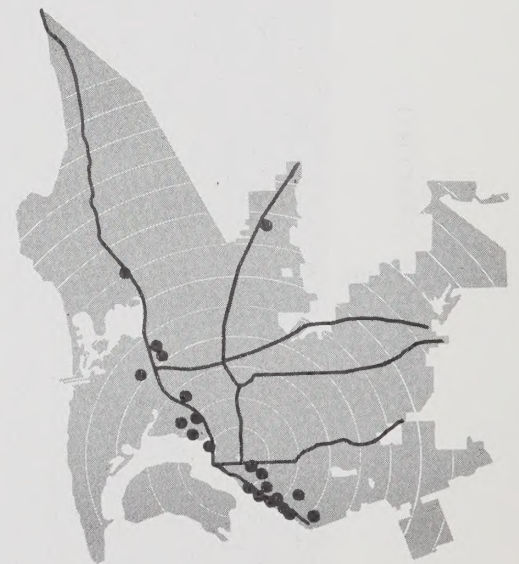
**FLOOR AREA IN RELATION TO DISTANCE
FROM CENTER**



**STRUCTURAL DENSITY IN RELATION TO
DISTANCE FROM CENTER**



LOCATION OF PLANTS

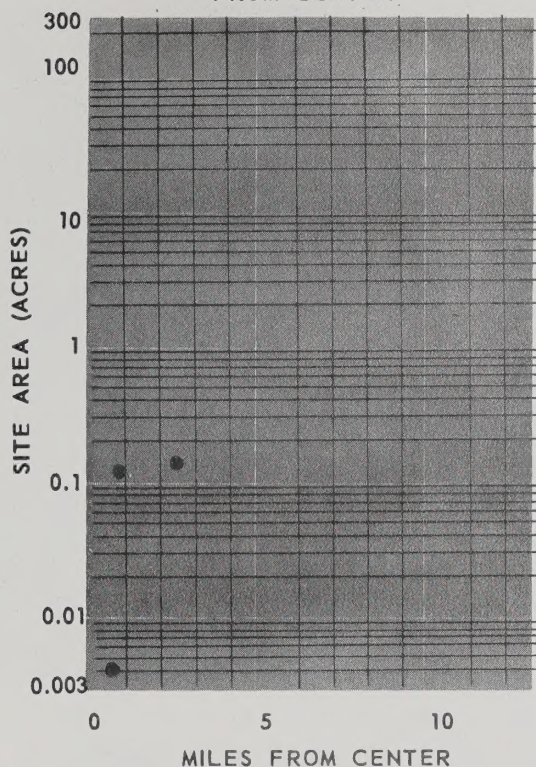


**ONE MILE RADII
CENTER: FIFTH & BROADWAY**

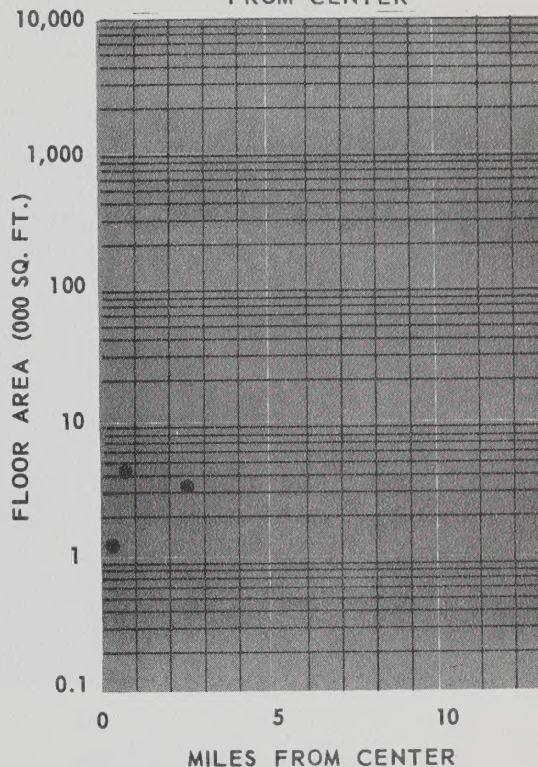
CITY OF SAN DIEGO - JANUARY 1959

FIGURE 19 CHARACTERISTICS OF S.I.C. GROUP 38 PROFESSIONAL EQUIPMENT MANUFACTURING

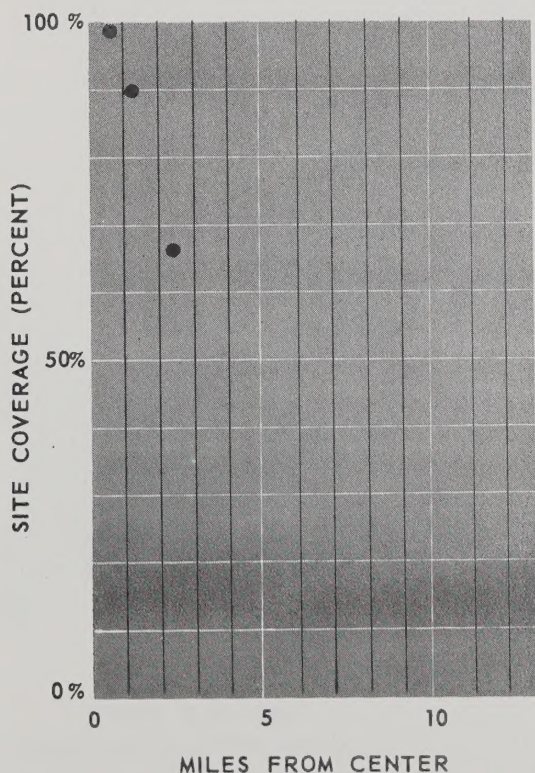
SITE AREA IN RELATION TO DISTANCE FROM CENTER



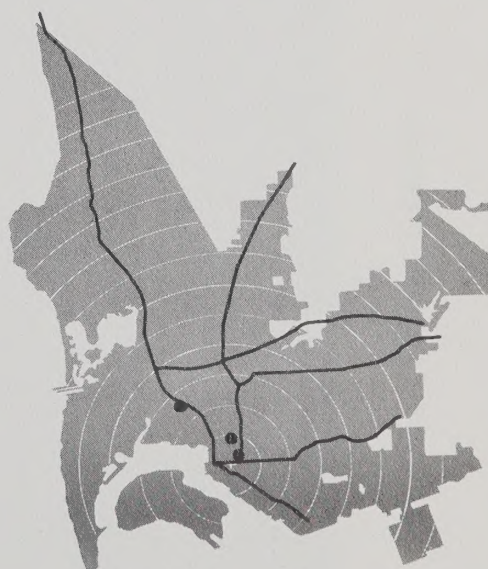
FLOOR AREA IN RELATION TO DISTANCE FROM CENTER



STRUCTURAL DENSITY IN RELATION TO DISTANCE FROM CENTER



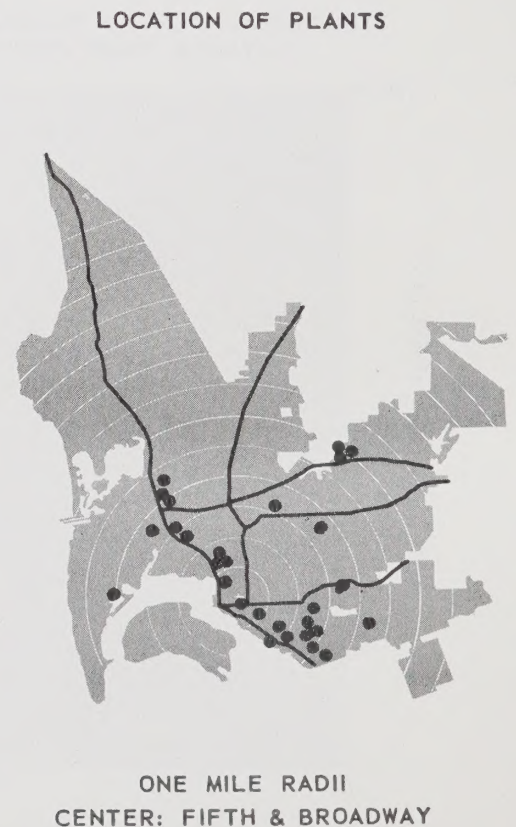
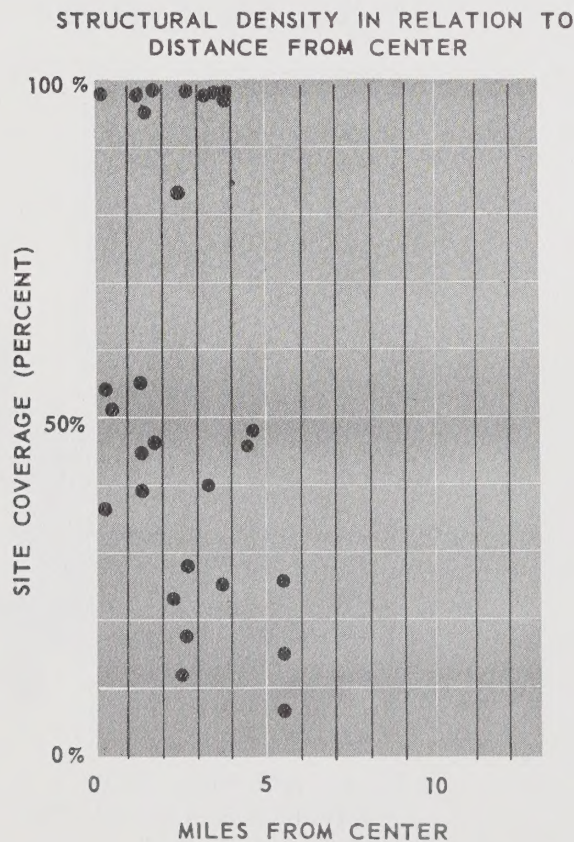
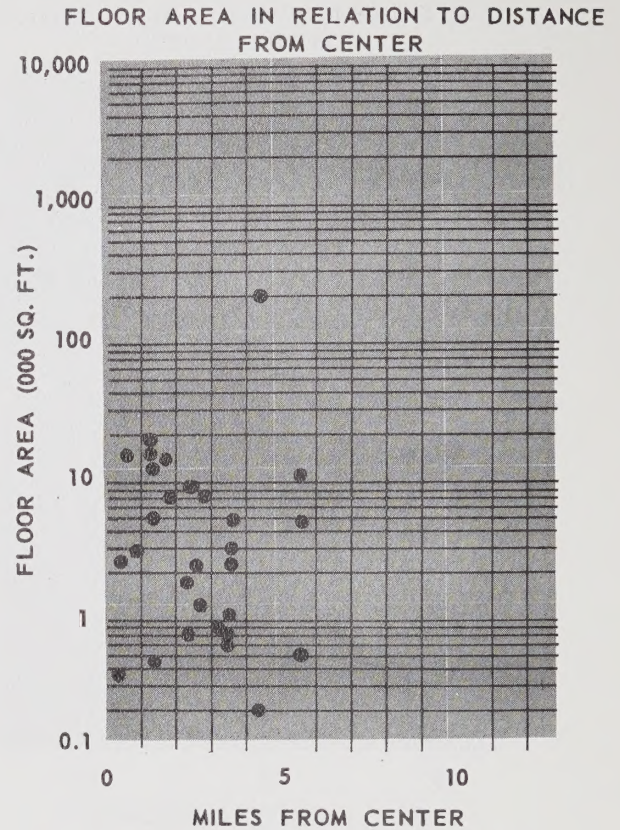
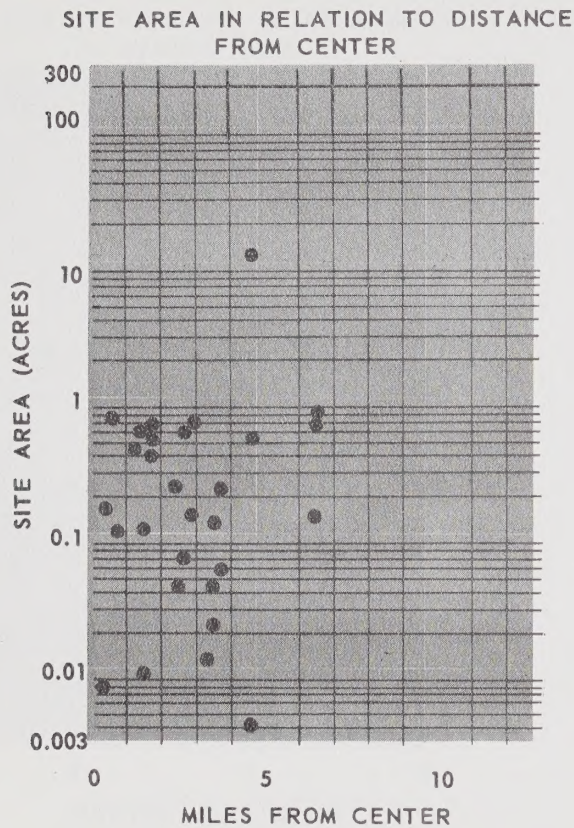
LOCATION OF PLANTS



ONE MILE RADII
CENTER: FIFTH & BROADWAY

CITY OF SAN DIEGO - JANUARY 1959

FIGURE 20 CHARACTERISTICS OF S.I.C. GROUP 39 MISCELLANEOUS MANUFACTURING

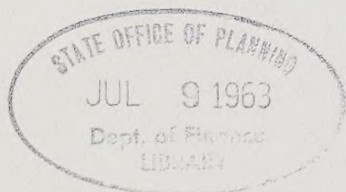


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